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## A QUESTION OF LABOR.

AS will be seen from a diagram on another page, the price of crude rubber, taking fine Pará as the standard, has reached a higher level than at any time in the past—if we except the spasmodic approach to \$1.20 caused by Vianna twenty years ago. Doubtless a decline from the present figures will be seen within a few months, just as fluctuations occur every year, but with all its changes, the general tendency of rubber is upward.

Referring to the rubber market review printed in the first issue of THE INDIA RUBBER WORLD, it appears that in August, 1899—just fifteen years ago—fine Pará was quoted in New York at 60 cents. Our diagram, in this issue, shows that 60 cents has never been touched again; not for ten years has the price fallen below 70 cents; only during one year since 1896 has it gone below 80 cents; during five years out of the past seven the price has ranged for the most part over \$1.

It is a common thing to hear this advancing tendency attributed to the increasing demand for rubber, but this tells only half the story. More steel and copper and paper are consumed than formerly, and yet these materials have declined greatly in cost. Indeed, about the only raw material of importance that constantly becomes more expensive is rubber.

It would appear natural that, in view of the increasing consumption of a material so certain as rubber to continue permanently in demand, and of its constantly enhanced prices, a larger rate of production would result. Within recent years the principal rubber areas have been much more fully explored than had been done when the best rubber could be bought for 60 cents; there are better and more extensive shipping facilities; and we fancy that better arrangements exist for financing the movement of rubber. Yet the annual increase in output from the Amazon region—the most important single rubber producing area—is never great. Here are the figures for five years past:

Year ending June 30, 1900.....	tons 26,670
Year ending June 30, 1901.....	27,610
Year ending June 30, 1902.....	30,000
Year ending June 30, 1903.....	29,850
Year ending June 30, 1904.....	30,580

Surely larger figures would have been shown for some of these years—larger visible supplies would have come into existence—if it had been possible for more rubber to be brought out. Without doubt there are yet considerable areas in South America, as well supplied as any other with rubber, which have not been exploited. A widespread belief that this is the case has appealed to enterprising persons in many countries, inspiring an ambition to revolutionize the business of rubber gathering by the investment of capital and the introduction of new business ideas. Up to date, however, there are no successes in this direction to be recounted, and it appears that the consumers of rubber must depend for their supplies upon the old system—at least until the business of planting has developed enough to supply a great deal of rubber.

As for the Amazon region, the production of rubber is a question of labor. The sparse native population appears

to be worked to the limit, and the introduction of alien labor has resulted only in failure. In this connection we may draw upon a recent report by a most capable observer, Mr. Louis H. Aymé, the new United States consul at Pará, who has written at length upon the Amazon country as a field for investment. He quotes from an American citizen, long resident there, as follows:

The first difficulty to be encountered by any American in this region would be the great scarcity of labor, which is the principal drawback, only the native Indians being available, and these being almost practically owned by the large rubber men by a system of indebtedness running back many years. Most of these debts are, undoubtedly, but a false paper indebtedness, but they are effective to bar the only labor to be had, from any new comer. And should the intending settler resolve to work himself and depend on his own efforts, as is common with us in the United States, he will, necessarily, have to compete with this degraded class of labor, which is of course impracticable. Practically the only industry that is possible, on account of this scarcity of labor, is rubber, and that would be so only if it were practicable to unite a sufficient number of Indians under the above described indebtedness system, which would require years to accomplish, not to speak of methods that an American would hardly care to put into practice.

What matters it then, how much native rubber there may be on the Amazon's tributaries, if a limited number of Indians comprise the whole possible working force, and these are held in virtual bondage as the only means of inducing them to gather rubber? It is doubtful if the gathering of wild rubber in any country is attractive to labor of any sort, or if the laborers employed possess much independence of action. But it appears that none of the conditions here indicated are susceptible of change in the near future, and that whoever insists upon using rubber must expect to pay well for it.

#### THE FUTURE OF AFRICAN RUBBER.

ON another page of this paper Mons. van den Kerckhove, of Belgium, a widely recognized authority, and who has returned lately from a visit to Africa, expresses the opinion that the rubber production of that continent is declining. He goes into details regarding the rubber situation in different regions, predicting an increase here to offset a falling off there, but the sum total of his carefully formed views is that the native rubber resources of Africa are becoming exhausted.

It is an old story that, with the rubber species found in Africa, and with the methods of extraction in vogue there, production is not long maintained in any one spot. But the possibility existed that Mons. van den Kerckhove, when asked for an opinion as to the future of the African rubber supply, might consider the areas yet unworked sufficient in extent to keep up the present rate of export for a great while to come. It appears, however, that such is not his impression; that while the output of rubber from French Africa, under the intelligent encouragement of the government, may increase gradually for some years, the gain will be more than counterbalanced by the decline which already has begun in the Congo Free State.

It is true that our correspondent is not wholly discouraged over the outlook; he hopes to find in rubber planting on the Congo a continued support for the trading com-

panies now operating with native rubber, and a continued source of supplies of raw material for the rubber industry everywhere. We are loath to discourage any hopes that may be entertained regarding rubber planting, and it is far from us to claim to speak with authority on the culture of the vines or creepers which yield the greater part of the rubber produced in Africa. But the small amount of data available on this subject—small as compared with the experience recorded with the *Castilloa* and *Hevea* species, for instance—does not appear to us especially encouraging. Hence it is not surprising that one of the largest and oldest and most successful rubber trading companies in the Congo state, and the largest planter to date of *Landolphia* vines, has begun to create a special reserve fund to be invested in planting *Hevea* rubber in the Malay peninsula.

What is especially worthy of note in our letter from Brussels is that its author, who is particularly qualified to speak, is convinced that only by cultivation can the world's demand for rubber continue to be met. It is natural that he should wish for the success, with regard to planting, of his fellow countrymen—of investors whose interests no doubt are linked in many ways with his own. Should such success result, none will record it more gladly than ourselves.

#### THE CONSULS AND RUBBER.

OUR strictures last month on a certain consular report on "Rubber Culture in Mexico" were not due to the fact that the writer took an unfavorable view of the situation, but to his manifestation of a degree of ignorance unbecoming a gentleman and a United States official.

We have no quarrel with any one who, after an actual survey of the field, turns out a pessimist in regard to rubber culture. For one thing, if everybody were as enthusiastic about the future of rubber as some of our friends have been made by their success, the business of planting might be overdone.

But a man in a position to have his views printed as an official utterance of a great government, and liable therefore to have unusual weight, ought to be especially careful about his facts. We feel that real harm has been done to legitimate planting interests in the tropics by certain misguided consuls who have exaggerated beyond all reason the possibility of profits from rubber and other crops. Thus a consul may write rubbish on one side of the question as well as on the other, and the pity of it is that rubbish from such a source may be accepted by uninformed persons as "a complete guide for investors," to their financial loss.

The fact is that it is no part of the official duty of consuls to give advice about making investments. It is their duty to collect such facts bearing upon business conditions as may come under their notice and seem likely to be of general interest. If the reports thus prepared are made public by the government, it remains for the citizen to use his own judgment in dealing with facts. But for reports without any facts there can be no excuse.

Naturally there can be no accepted standard for consular

reports, but on the whole those made on commercial subjects by the American service are probably superior to those published by any other country. There remain a few consuls, however, who certainly do prove exceptions to the rule, and it seems that an undue proportion of these have found berths in districts where crude rubber interests have to be dealt with.

### THE COTTON CROP OUTLOOK.

THE American cotton crop is passing through its crucial period. The idea generally prevails that it is doing fairly well, and that the largest yield in the history of the United States is promised this season. The department of agriculture, in its latest monthly report, gave the highest condition at the same date for years, with two exceptions, and this, together with the tremendous increase in acreage, readily leads to the conclusion that the possibilities are much beyond the ordinary. The weather bureau reports and advices from other than official sources lend color to the same theory, rendering it difficult to escape the conviction that a record breaking yield is in store. Railroad officials in the south and southwest have contributed largely to the fund of bearish predictions, and a crop of 12,000,000 bales seems to be the minimum in the minds of these gentlemen.

But it cannot be denied that there is another month full of possibilities, and it will not do to take a too optimistic view of the situation. The whole critical period lies within the next five weeks. Already complaints are more frequent regarding the future process. There has been too much rain in the Mississippi and Arkansas valleys, and there is too rapid growth of stalk, while the plant has failed to fruit rapidly. Some planters place the damage on account of rain at from 10 to 15 per cent., and the prospect is far less favorable than it was a fortnight ago. It is now feared that the weather will, after a long period of rainfall, turn very hot, thus inflicting serious injury. Some are anticipating that with a change of high temperature the crop will suffer a similar decline to that experienced in 1896, when the most magnificent prospects ever known were blighted by excessive heat, following a period of prolonged rainfall such as that through which the south has just been passing.

Manipulation, of course, is the keynote to the changes in prices. The recent advances to more than 10 cents for September delivery and to above 9.80 for December, in the minds of many, bore the earmarks of manipulation. Sentiment is naturally bearish, and the main features are favorable to a lower range of values. The southern cotton manufacturers are not all agreed as to the basis of staple prices for cotton goods to be consumed next year. They apparently do not, however, vary widely in their opinions, as is shown by the expressions of visitors to the New York market recently, who have had ample opportunity to study the new crop situation. The most bearish mill man who has been heard to talk places the basis at 9 cents, while a few say 9½ cents, but the majority are calculating on paying 10 cents for their cotton. They claim that the southern planters are too astute to allow the price to go below the latter figure. It is known that certain manufacturers of cotton duck are planning to do business on this basis.

Wide fluctuations have occurred between 13½ cents in February and 10.70 to-day. The variations in the price of spot cotton have been in sympathy with the market for futures, which is influenced by the favorable outlook for a larger crop. Actual spot business has been small, and the low prices now prevailing do not represent a corresponding shrinkage in the

value of the cotton in stock. They have been brought about by the abnormal conditions now prevailing. From a very conservative calculation it is not safe for the mechanical rubber people, or any of the other consumers of cotton duck and light weight sheetings, to figure on paying prices based on anything below 9½ cent cotton, and probably 10 cents, the last mentioned figure depending on the development of the staple crop during the coming five weeks.

There are other factors than the weather to take into account in figuring on a large crop, the most important of which is the labor question. It is held by many that it will be impossible to pick more than 11,000,000 bales under the most favorable conditions. Planters who have been endeavoring, at New York, to engage newly arrived foreigners have met with poor success, and the labor question is going to be a formidable one in the harvesting of the coming crop of cotton.

IN RESPONSE TO CONTINUED INQUIRIES regarding the new Colorado rubber mentioned so profusely in some Western newspapers, we are obliged to say that the production promised at the end of sixty days has not been realized. But rubber is an exceptionally costly commodity just now, while talk remains as cheap as ever. This may explain why the Colorado promoters thus far have produced more talk than rubber.

### BOUNTY ON MEXICAN RUBBER.

IN our issue of June 1 appeared a copy of a letter addressed by the Editor of THE INDIA RUBBER WORLD to the President of Mexico, suggesting the offer of a bounty on rubber produced under cultivation in that republic. It was also suggested to those interested in planting that their coöperation in bringing this matter before the Mexican government would lend weight to the suggestion. From the following expressions, selected from a number of letters received on the subject by Mr. Pearson, it appears that the suggestion has met widespread approval among the planting companies, and that strong representations to the Mexican authorities will be made. Some of those heard from have been:

MEXICAN DEVELOPMENT AND CONSTRUCTION CO. OF WISCONSIN, Oshkosh, Wisconsin.

Relative to your letter of May 27 to his Excellency the President of Mexico in favor of the proposed bounty on cultivated rubber, we have acted on your valuable suggestion and trust all others interested in rubber cultivation will do the same.

ISTHMUS PLANTATION ASSOCIATION OF MEXICO—C. G. Cox, secretary, Milwaukee, Wisconsin.

I should think that the combined efforts of the Americans who are doing business in Mexico would have a great deal of weight in getting this bounty. Should we not succeed, the agitation cannot help but be beneficial to all interested in Mexico. I think you have started a good work, and I would ask you to kindly accept our thanks for your efforts in behalf of the raisers of cultivated rubber in Mexico.

TABASCO COMMERCIAL CO., Hartford, Connecticut.

We wish to thank you for your interest and attempts to help along the cause which we believe will come out all right for those who work honestly and patiently.

COMMONWEALTH MEXICAN PLANTATION ASSOCIATION, Chicago.

In regard to a bounty on Mexican rubber, we have written to President Diaz on the lines of your letter to him, and hope for good results.

THE TEHUANTEPEC RUBBER CULTURE CO.—Squire Garnsey, secretary, New York.

Under date of June 15 we wrote our Mr. Luther, calling attention to your letter to the President, dated May 27. He replies June 24, stating that he has written a letter to Senator Moran, at the Capital. I think Mr. Luther's effort will culminate in something, in that Senator Moran has recently become an active member of the Mexican Planters'



Association. The association itself, it seems to me, could accomplish more with the government than a few stray individuals at such long range. All contributions coming from reliable influential sources will, however, have their effect, and we will see what we can do from this end of the line.

MEXICAN MUTUAL PLANTERS CO., Chicago.

It certainly would never have occurred to us to make this suggestion, but we deem it an exceedingly valuable one, and think that all American rubber growers in Mexico should be grateful to you in your undertaking.

THE VERA CRUZ DEVELOPMENT CO., CANON, Ohio.

As per our letter of the 13th inst., stating that we would submit your letter to our Directors, which was done at their last meeting, and heartily approved the work you have undertaken; they directed that the secretary address President Diaz and the Mexican Minister at Washington, along the lines suggested in your communication.

CONSERVATIVE RUBBER PRODUCTION CO., San Francisco, California.

If we are able to do anything to help this matter along, we shall certainly do it.

ISTHMUS PLANTATION ASSOCIATION OF MEXICO, Milwaukee, Wisconsin.

We have also noted the copy of your letter to President Diaz, and would say that we are with you heartily in this matter.

#### INVESTIGATION OF RUBBER.

THE Secretary of Agriculture at Washington having announced lately the installation, in connection with his department, of a laboratory to be devoted to researches in connection with leather and paper, a letter was addressed to him inquiring in regard to the disposition of the department toward affording similar facilities for investigations relating to rubber. The answer to this inquiry follows:

DEAR SIR: Replying to your inquiry in regard to the investigation of rubber, I beg to inform you that inasmuch as it is so nearly related to leather in many of its economical uses it will be committed to the Leather and Paper Laboratory. These investigations, however, can only be of a public character for the common benefit and not the particular benefit of any person or firm.

If there are investigations of this kind which you think should be made, I should be glad if you would communicate the fact to the chief of the Bureau of Chemistry of this Department. I am, respectfully,

Washington, D. C., July 23, 1904.

JAMES WILSON,  
Secretary.

#### ANALYSIS OF CAOUTCHOUC MOLECULES.

FROM THE "GUMMI-ZEITUNG" (DRESDEN), JULY 1.

PROFESSOR DR. C. HARRIES on June 27 delivered a lecture at a meeting of the German Chemical Society on his work in reference to the ozonification of Caoutchouc. His experiments show that ozone may be readily added to the Caoutchouc molecule, and he proved that there are two double sets of bonds for  $C_{10}H_{16}$ . The "Ozonite" obtained is an explosive body and it has a chemical formula of  $(C_{10}H_{16}O_4)_x$ .

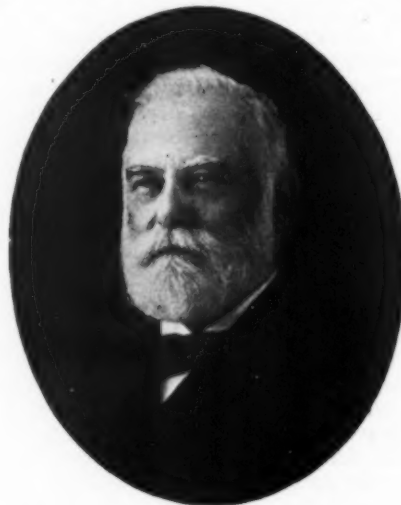
Professor Harries analyzed this "Ozonite" in a beautifully striking manner into levulinic acid, which is an acetone, and which is a derivative from succinic acid. The mystery which has surrounded the Caoutchouc molecule has by this work been now unveiled. Further experiments will follow and the practical advantages resulting from this scientific work will still further benefit progressive technology. Further details on this subject will be shortly published.

DR. FRANK AND DR. MARCKWALD.

#### THE OBITUARY RECORD.

THE Hon. James Pierce, who died at his home in Malden, Massachusetts, on July 8, was a prominent citizen of that place and had been throughout his life a successful business man. In addition to his other interests, he had been a director in the Boston Belting Co. for twenty years, and president of the corporation since August 11, 1902.

Mr. Pierce was born January 20, 1837, at Medford, Massachusetts. He was the son of Sewall and Mary S. Pierce and a grandson of Abel Pierce, a revolutionary soldier. He attended the public school at Woburn; at the age of 16 went to Lowell



as a clerk in a dry goods store; five years later went to Boston to fill a similar position; and at 24 went into business for himself. In 1871 he became interested in the manufacture of leather at Albion, New York, and 1887 transferred his interest in leather to Olean, New York, where he owned an important establishment to the time of his death. In the leather business he was successively a member of Lane, Pierce & Co., James & W. Pierce & Co., and the James Pierce Leather Co.

Mr. Pierce's residence, however, was at Malden, from March 29, 1858. He took an active interest in public affairs, and was a member of the first council elected in Malden after its incorporation as a city, serving as president of that body. Altogether he was elected councilman for nine years and president of the council seven years; he was elected mayor in 1892; was a member of the Massachusetts house of representatives for three years, of the state senate two years, and a state prison inspector five years. He was president of the Malden Savings Bank for 37 years, and was for years a director in the First National Bank of Malden and the Freeman National Bank of Boston. He was a member of the First Baptist Society, Mt. Vernon Lodge of Masons, the Royal Arch Chapter of the Tabernacle, and the Malden Club.

In 1855 Mr. Pierce was married to Miss H. Louisa Hodgkins, of Charlestown, New Hampshire, and five children were born to them. Mrs. Pierce and two daughters survive. The funeral occurred at Malden on July 8.

Mr. Pierce was a warm friend of the late Hon. Elisha S. Converse, with whom he came into close contact in many relations of life during nearly half a century, and was one of those who formed the escort to the grave on the occasion of Mr. Converse's funeral, only a few weeks ago.



## RUBBER PLANTING IN CEYLON AND THE MALAY STATES.

*As Seen by The Editor of "The India Rubber World."*

## FIFTH LETTER.

Departure from Colombo for the Federated Malay States.—Christmas *En route*.—Arrival at Singapore.—The Botanic Gardens and Director Ridley.—Successful Growth of *Hevea*.—Gathering Gutta-jelutong in the Jungle.—Reboiling Gutta-percha by the Chinese.—A Visit to Johore.—Starting for the Malay States.

MY second experience on a P. & O. boat was when I boarded the *Bengal* in Colombo harbor, being taken off in a catamaran, whose crew seemed to enjoy narrow escapes so much that they invited collision with every moving craft that came their way. Reference to my notes develops one fact that seemed of prime importance then, and that was that I sailed from Colombo on the 20th of December, and had received no mail at all while in Ceylon. In other words, I had got ahead of schedule time, and as a result was facing a Christmas on a tropical sea with no holiday greetings. However, the *Bengal* sailed just the same. We got away soon after dark during an exceedingly heavy rainfall. As there were only twelve passengers all told, I had a very roomy, four-berth cabin to myself—a great comfort in tropical waters.

The next morning I was up very early, took my last look at the fading shores of Ceylon, and got well acquainted with a young planter from Penang who was so much interested in India-rubber that he described to me in detail the way the American importers bought it, "melted it up with sulphur and lampblack and sold it to the manufacturers to be cast into goods." As we were still working south, the heat became even more tropical, yet we were forced to take much exercise to enjoy our meals. We therefore played ping pong, deck quoits, and cricket, being every now and then driven to the smoking room by the floods of water that poured along the decks, in spite of top and side awnings. The air was exceedingly damp, one perspired constantly, and, as one Briton expressed it, he felt like a chewed string. On December 24 we sighted the island of Puloh Wea, which, having no awnings over it, was getting mighty wet, and on the following morning, which was Christmas, we entered the harbor at Penang at 6.30 in the morning.

The rain had left us for a little, the sea was smooth, and all about us were brown-sailed Chinese junks and sampans with double pointed sterns, on which stood half naked dyaks with queer conical hats, sculling with exceeding skill. The harbor was crowded with foreign shipping, all gaily decorated with flags, and as we cast anchor we had a good view of the town nestling at the foot of lofty mountains covered with verdure to their very summits. We all got ready to go ashore and stood watching the swarming native boats containing money changers, curio sellers, and jugglers. These gentry were not supposed to come aboard, but whenever they got a chance they ran their boats close to the ship's side, climbed the slender masts, and, swinging toward the vessel, caught hold of the edge of a port, and clinging tooth and nail, came aboard like so

many monkeys. While we waited for permission to go ashore we learned that the huge two story building fronting us, but, alas, an eighth of a mile away, was the custom house, and the factory plant a long distance away with four brick chimneys was a tin smelter. We were also informed that the town was not Penang, but was Georgetown, Penang being the name of the island on which the town was situated, and then all at once, when we were full of information, the anchor came up and we sailed away. At first we were very much disgusted, but as we circled the island and struck into the straits of Malacca in plain sight of the low lying shores covered with graceful coconut palms, with ranges of mountains in the distance, and as island after island appeared in sight, each wilder and more beautiful than the last, we forgot our disappointment and became engrossed in the scenery. Possibly to make us more good natured, we had a magnificent Christmas pudding that night and then a musicale on deck, at which the first officer sang and the fourth officer played, and all joined in games until it was time to retire.

It grew rough in the night and the pagan who pretended to

look after my comfort slipped in and closed the port, which drove me on deck very early in the morning, to find the day lowery and dark, with a high wind blowing. Toward night, however, the clouds had scattered, all except a great black mass that lay over Sumatra way. As the sun dropped behind this mountain of cloud, and sent its rays through it, lighting the interior, we looked into huge golden caverns, their crimson ceilings upheld by twisted col-



JOHNSTON'S PIER, SINGAPORE.

umns and arches of fantastic design, while the light shining above the cloud mass flecked the sky to its furthest horizon with wonderful combinations of gold and purple that held one breathless with awe and delight.

After passing Malacca, which showed simply a white line close to the water's edge, so far away was it, many islets covered with palms, we sighted Singapore about 4 o'clock in the afternoon. As the tide was not right, we couldn't take the nearest channel, but were obliged to go outside of the strongly fortified islands that form natural breastworks for the fine harbor, and by putting on all steam, were able to get up to the P. & O. docks just as night fell. Those of us who were going to stop in Singapore went ashore at once, leaving our baggage to follow, and, in a square, box like gharri drawn by a little Burmese stallion, we drove by the Malay fishing village, around through the Kampong Glam to Raffles Hotel, said to be the *hotel de luxe* of the East. There we had dinner and later took rickshaws and rode through the Chinese, Malay, and Japanese quarters, watching with eager eyes the strange street scenes, listening to and trying to remember the grotesque calls of the street vendors, and finally seeing and hearing so much that was new and strange that it was a relief to get back to the quiet hotel and turn in on a bed that had neither top sheet nor coverlet, because in that



ORCHARD ROAD, SINGAPORE.

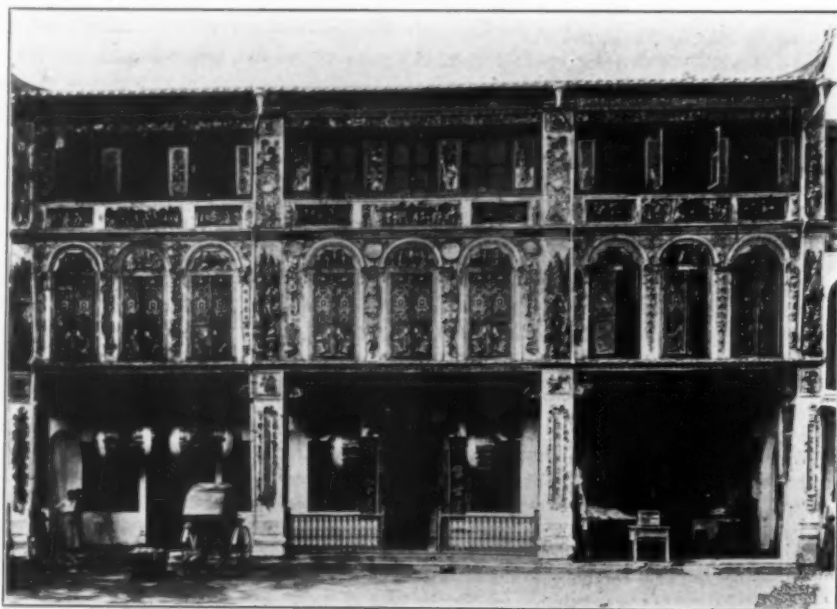
climate, even though the whole side of the room was open to the night air, no such covering is necessary. In the morning I had a new experience—a bath in Eastern fashion, for the bath room is a bit different from what the ordinary dweller in the temperate zone expects. It is cement floored and gullied, with a huge urn in it from which one dips buckets full of water to pour over the person. In other words, one stands outside of the tub to bathe. To get *into* it is out of the question.

And now a word about Singapore. It was founded, so the English say, in 1819, by Sir Stamford Raffles. The real date was, however, 1283, when it was founded by the Malays and became at once a general rendezvous for their pirate craft. It is 8000 miles from England, is the seat of government for the Federated Malay States, and is a great and growing business center. In the census of 1901 the population of the island was 184,554. Of this, 101,908 were Chinese, 35,000 Malays, 16,000 natives of India, and 2769 whites. The island contains 207 square miles and lies rather low, the land being on an average from twenty to thirty feet above sea level. The average mean temperature in the shade is from 80° to 85° F. The rainfall in Singapore and the Malay States is from 90 to 200 inches. The city is under excellent control, the buildings in the business portion are quite imposing, and the harbor, with its magnificent fortifications, most excellent. The visitor at once notes the strange mixture of races that place their impress on architecture, business, and modes of life. The naming of the streets is an example of this. For instance, there is Victoria street and Bukit Timah road, together with Orchard road and Teluk Blangah road, and so on.

After morning coffee, I took another ride through the crowded, barbaric, festering native quarters, and had my eyes opened to many things. The European and business parts of the city are really very fine, and, except in the heat of the day,

quite comfortable. It was not the rainy season, yet heavy showers came up almost every afternoon, and although it was cooler in the evening it was still hot and damp, and few of the hotel people showed much energy. Nor did they take any especial interest in the wants of their guests. No time tables were obtainable, nor was it possible to discover from the clerks anything about the departure of trains, the sailing of steamers, or the time when the postoffice would be open. They were not in the least discourteous, but simply weary and vacuous.

In spite of the midday scorching sun, in which all of my spare clothing was spread to kill the mildew, I took a rickshaw and rode out over Orchard road to the botanic gardens. I was most hospitably received by Director Henry N. Ridley, F.L.S., and shown all of the various rubber and gutta trees and vines that he has so industriously collected. The *Hevea* was naturally my first concern, and I found Mr. Ridley most willing to talk about it, as he has long advocated its very general planting, and certainly the soil is grand and the trees respond to cultivation beautifully. From 100 cultivated trees Mr. Ridley has taken 900 pounds of Pará rubber in one season's tapping. He has also taken 3 pounds from a three year old tree. The growth here is phenomenal, trees 18 months old standing 30 feet high, while three year olds often attain a height of 60 feet. I found in these gardens the *Hevea* growing in a variety of soils, and all apparently thrifty. For example, high up on a gravelly hillside, were a half hundred trees that were 8 or 10 years old, and 16 to 18 inches in diameter. These were planted in partial shade, but had outdistanced all surrounding growths. The other extreme from this was a large planting where there was but six inches of soil above water, the soil being often submerged but draining off very quickly. Here the trees grew well, but were apt to be blown over because of their shallow rooting. To show how tenacious of life the tree is, it is only necessary to examine the photographs of many such trees that, blown over, took fresh root from the tops and sent up shoots that soon developed into sturdy tree trunks. I counted seven such trunks springing from one prostrate stem, each trunk big enough to tap, and full of latex.



CHINESE DWELLING IN SINGAPORE.



FIELD OF PARA RUBBER ("HEVEA").  
[In Singapore Botanic Gardens.]

Another experiment in distance planting was a row of 17 trees that were set 6 feet apart, that although they were only 8 years old, were 2 feet in diameter and showed a magnificent leaf area. These, of course, had the sun on both sides, and thus came along faster than if in partial shade. The number of *Hevea* trees in the gardens now ready for tapping is 1300. A still further experiment with the *Hevea* was the planting of the seed in specially prepared beds, in which a variety of different manures were placed. The photograph tells the whole story and would seem to point to cow dung as the best food for the young *Hevea*. The soil in the gardens is not particularly rich, being of a red gravelly character, showing traces of iron, but the moisture and the sunlight make up for what it may lack.

Next after the *Hevea* I wanted most to examine the tree that produces the Gutta-jelutong, or Pontianak gum. I found that it was very common all through the Federated Malay States, and that the gum was rarely taken from it, the tree being regarded as useful only for the cheap clogs that the natives wear. The tree is botanically the *Dyera costulata* and when mature is a splendid forest creation. One in the gardens, of which I have a photograph, was certainly 150 feet high, with a huge three part trunk, and a magnificent crown of leaves. We did not tap this one, but went into the jungle, found a wild one, and tapped it after the most approved method. The latex oozed out like clotted cream and seemed most abundant, but began to coagulate almost at once. It is said that a mature tree produces as much as 100 pounds, by scraping the bark rather than tapping, and mixing at once with kerosene.

In the bit of jungle where we found the Pontianak tree, there was killed only a few days before a 30 foot python, that had not been thought a particularly undesirable neighbor until he swallowed a couple of Mr. Ridley's swans, which ended his fate.

The *Castilloa* in the gardens did not seem to be in a very flourishing condition, nor did the Ceará rubber trees, although both have been carefully experimented with, the former seeming to be stunted, while the latter was apt to develop hollow stems. A further trouble with the *Castilloa* came about through its habit of shedding its temporary branches, which gives a nice sheltered tender spot for the beetles, of which they often avail themselves. There was also a most luxuriant growth of the *Willughbeia firma*, but it was such a tangle that it would be almost impossible to get any rubber out of it economically. Indeed, I have yet to find anyone that has experimented with the culture of the vines that are rubber producers who have any faith in them at all. The *Willughbeia*, however, when wild, produces a good grade of rubber that is known as "Borneo," and is very easily coagulated after tapping. There were also a great variety of Gutta-percha trees, together with the *Ficus* and the *Kickxia*, to which we devoted considerable attention.

Director Ridley is a most charming companion, and as he often takes long journeys into the wilds accompanied only by the wild men, his stories of adventure are very interesting. His guides in the wilds, by the way, never can understand his interest in insects or plants, except upon the hypothesis that he is after ingredients to make "gold water," a magic liquid that the white man is always yearning to make and which will

turn anything into gold. The type of coolie in Malaysia is, however, far superior to that in Ceylon. They are better formed, stronger, and far more self respecting. Nor do they call the white man "master"; to them he is "tuan" (Sir).

There are many tigers in the Malay peninsula and some in the island of Singapore. In the bit of jungle where we secured the latex of the Gutta-jelutong there often lurked a tigress who swam over from the main land and had her nest there. As a rule they are troublesome only as they steal the Chinamen's pigs, and while there is now and then

one who gets to be a man eater, it is not European meat that they seek, but the flesh of the coolies. They are very clever



SHOOTS FROM A FALLEN HEVEA TRUNK.  
[With view of Director H. N. Ridley.]



COAGULATING AND PRESSING PARA RUBBER.





MALAY HOUSE IN JOHORE.

and hide themselves so well that one may almost step on them in going through the jungle. Once they are discovered, however, they charge for the intruder, uttering a tremendous roar. If they are not wounded and the charge is avoided, they slip off into the jungle and are almost instantly lost to sight. There is a record of a large tigress with two cubs that terrorized twenty miles of well traveled road, killing on an average a coolie a day for months. She was finally killed by a spring gun, but the cubs escaped, but did not turn out to be man eaters. The tiger is fond also of killing the water buffalo. To do this they hunt in pairs, one cutting the creature out of the herd, while the other lies in wait, and at the right moment springs on its victim, seizing it by the neck, and, leaping high in the air, throws the whole weight of its body in such a way that the neck is instantly broken. Referring again to the man eaters, they kill their prey by a stroke on the neck, and in feeding eat only the coolie's legs.

The most vicious beast in Malaysia, and one that both Europeans and natives dread, is a bison, something like that of India, only larger. It is a huge animal, six feet high at the withers, short legged, and heavy bodied. It lives in the forests, feeds on fruits, and usually attacks man on sight. They are very hard to kill and are the dread of the foresters. It is easily the largest ox in the world, and by far the most dangerous.

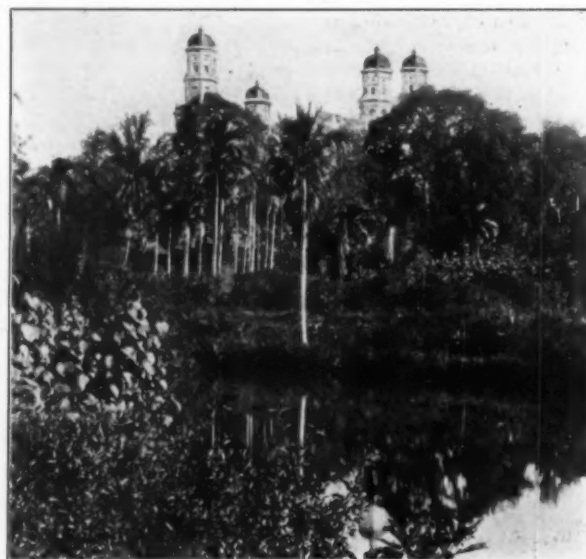
There are of course many snakes, and of them the cobra seems to be best known. The Singapore cobra is a much more vicious appearing reptile than is its cousin of Ceylon, and with different habits. It is known as the black cobra and rarely bites, choosing rather to eject the poison at the eyes of its enemy, and at eight or ten feet distance it is a pretty fair shot. If the eye is not at once treated by some sort of alkali, or if the venom gets in an open wound, the results are quite serious. While I was at the botanic gardens, Mr. Ridley was treating the eyes of his fox terrier, who had just killed a cobra, and in the fight got his eyes full of poison.

Returning from the botanic gardens, I called upon Messrs. Huttach Brothers, to whom I had letters of introduction. They are large traders, sending shiploads of rattan from Singapore, and bringing great cargoes of coal from Japan. They are

also agents for tin mines in Johore, and incidentally handle much Gutta-percha. They were of the opinion that the Marconi system was already affecting the gutta market, as there was much in stock in Singapore, and according to their advices a great deal unsold in England. Through their courtesy I was taken to the Chinese merchant quarters and shown the reboiling process that prepares the gutta for the markets of Europe and America. We first visited the offices and storehouses of the Teck Wah Liong Co., where we met the senior member of the firm, a very polite, intelligent Celestial, who spoke good English. Our interview took place in a fine ante room furnished in Chinese fashion, with many sturdy ebony chairs set close to the walls, while huge lanterns hung from the ceiling. In the rear rooms were many brick tanks about 20x20 feet and 5 feet high, covered with cement, in which the gutta was stored under water. The floor was tiled and piled high with blocks and rolls of gutta, which, to keep off oxidization, was frequently wet down by turning a stream of water on it by means of a hose. Although they were equipped with reboiling tanks, none were then in use, so we were taken to a nearby warehouse where the work was in progress.

The Gutta-percha as the reboilers receive it comes in large crumbly cakes. These cakes are put in a tank and boiled in hot water, after which the mass is run through a large mangle turned by two coolies and fed by a third. It is next dumped into a tank of cold water, allowed to cool, and then stacked up to dry out. After drying it is cut into shreds by coolies who use great cleavers for the purpose, and it is again boiled and sheeted and cooled as before. This same process is gone through with a third time, but when the sheets come from the mangle this time the gutta is folded into neat rectangular blocks and is ready for market. This boiling, sheeting, and cooling, toughens the gutta appreciably and also allows of certain admixtures that are supposed to be suited to some grades. For example, in some of the lower grades a modicum of Pontianak is often introduced. All the gutta that I saw was said to have come from Borneo in small lots, though my informants told me that they received shipments occasionally from the Philippines.

I had heard so much of Johore and its young and athletic sultan that I had a desire to see it at close range. I was, there-



NEW MOHAMMEDAN MOSQUE, JOHORE.—VIEW FROM SEASIDE.

fore, much gratified by an invitation from the chief of the agricultural bureau there, Mr. F. H. M. Staples, to pay him a visit. I knew that I should miss the sultan, as rumor had it that he had taken \$200,000 in gold and started for Europe for a brief vacation from the cares of state. A brief rickshaw ride from the hotel took me to the Johore and Kranji railroad, where in the "first class waiting shed," as the sign on the wall had it, I waited for my train. When it appeared I got aboard and again waited. After a time the dusky hued station master came out and rang a big dinner bell most energetically, which was the signal to start. Still we waited and waited, but finally reluctantly pulled out. The ride across the island is short and pleasant, and is through many plantations and some jungle and terminates at a ferry where a steamer transfers the passengers to the domain of the sultan. Mr. Staples was awaiting me and was good enough to put me up at the Johore Club, and I had tiffin with him at the sultan's hotel. In the afternoon we drove out to the rubber plantation, which is some three miles from the town, and which now consists of some 50 acres of *Ficus elastica* quincunx with Pará. As all the manure from the dairy farm is to be used on this plantation, the rubber should come on very rapidly. In addition to what is already planted, large clearings are being made, corn being first planted with the rubber for shade. On my return I had a look at the native village, went again over to the hotel and club, where I met the postmaster general, the chief electrician, and the Datto Abul Rahmin, admired some fine pictures of the sultan, and returned to Singapore.

Before I knew it I was facing the new year, and as New Year's day came on Friday, the rest of the week was taken by all as a period of rest. This suited me physically, for I was exceedingly languorous, but not mentally, as I longed to be up and doing. I gave up to the climate, however, and idled. Indeed, the wish to remain quiet grew on me to such an extent that had there been then more days of it I think I should have staid in Singapore. My bedroom boy, Poo Kee, a short, chunky, good humored Chinaman, made everything as easy as possible for me. When I ordered a bottle of Apollinaris he brought ink, and I never could get him out of the habit of starting the water running in the bathroom and leaving me to turn it off.

During my enforced idleness I did go down to the billiard room and play a few games, but more to hear the markers chant the score in Malay than for the fun of the game. To be sure I roused up one evening and went out to see some fifty rickshaw men try to thrash two Russian sailors who would not pay for their rides, but it was more like a game of tag than a fight.

On New Year's morning there were sampan races in the harbor, where the native

boatmen displayed surprising skill, and the spectators grew wildly enthusiastic in spite of the fact that it was exceedingly hot and the glare of the sun on the water was almost unbearable. The heavy rain that came up early in the afternoon, but lasted only an hour, did not discourage the merry-makers, and

as great crowds were going out to the race-track to see the natives compete with one another in a variety of sports, I went too. The turf around the track was sodden with water and the track heavy, but in spite of it all there were obstacle races, treacle dipping for silver coins, rickshaw, pony, and hurdle races that were both ludicrous and interesting. As on the evening before there had been a great dinner followed by a dance at the Raffles Hotel, and at midnight "Auld Lang Syne" and "God Save the King" had ushered in the New Year, I could not but feel that 1904 had been heartily welcomed.

In the meantime several warm invitations had come to me from planters up in the "States" to visit them and have a look at their rubber. I therefore decided to go up to Selangor, where as far as I could judge I was likely to see rubber that would typify what that part of the world could produce. Not that the oldest *Hevea* was there. Indeed some one told me, I do not remember whom, that the largest and oldest *Hevea* trees in the Federated Malay States were destroyed by mistake some years before. It seems that a former official ordered some Dyak servants to

tap the trees and they, supposing that the flow of latex would be immediate and abundant, as it is with the *Ficus*, and finding the case the reverse, reported that the trees were barren. They were, therefore, cut down, much to the subsequent regret of all.

The boat that was to take me to Selangor is known as the *Sappho*, and in order to get aboard of her you order a gharri to be at the hotel at 3 o'clock in the afternoon and the man will come at 1 and try to charge you for the two hours' wait. He doesn't really expect to get the extra pay, however, and will respect you much more if you don't give it to him. He leaves you at Johnson's pier at about 3.15, where the coolie who takes your luggage in charge informs you that the launch to the *Sappho*, advertised to leave at 3.30, has gone. It is, therefore, your duty to engage a sampan, and get its owner to put you aboard. This is really more fun than it is to go in the launch, provided it is not raining. All this I did. Once aboard, I

found that the *Sappho* was a steamer of 329 net tons, and, according to the written statement of some dock official, had sufficient rice, fuel, and water for the voyage. I was, therefore, content. I had a very comfortable stateroom and soon made the acquaintance of two young English mining engineers who had come down to Singapore for the holidays, were going to get off at Malacca and then ride 50 miles on bicycles, mostly up-hill, to their station.

[TO BE CONTINUED.]



GUTTA-JELUTONG TREE.  
[Botanic Gardens, Singapore.]



MALAY VILLAGE "PULO BRAM," SINGAPORE.  
[The huts all on supports, over water.]

## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

TAKEING a retrospect over the last few years, there is comparatively little change observable either in the kind of chemicals or in the prices thereof. Certain oxides, like zinc oxide and litharge, have fluctuated in consonance with the market prices of the respective metals, but in many other chemicals the bottom prices obtained by competition have shown practically no variation; in this category come French chalk, barytes, whiting, carbonate of magnesia, sulphides of antimony and zinc and sulphur. In the case of red oxides of iron and lampblacks there has always been wide divergencies in price, according to quality, and it is more the tendency than it used to be to have these tested for their tinctorial power and to pay accordingly. I imagine that there is not much sale now for the heavy black of old time, which consisted largely of whiting, though would-be sellers of pure oxide of iron often complain of the difficulty they have in competing with oxides which look much the same and which by reason of a large admixture of foreign matters can be offered at a low price. Sulphur of good quality free from grit and acid is now selling at prices which do not admit of further reduction unless business is carried on on philanthropic lines. With regard to precipitated sulphur, the firm who supplied what little was used gave up the business because it was more bother than it was worth. Considerable fluctuations have been experienced in solvents; for a long time low prices ruled for 90 per cent. benzol and some manufacturers took to using this in place of the ordinary solvent naphtha. The main difference between them lies in the boiling point, and unless dough made with the coal tar benzol is kept covered more evaporation takes place than with the higher boiling naphtha. Coincident, however, with the decay of the waterproof branch came a demand for benzol for gas enrichment and these factors led to a reversal of the market prices, solvent naphtha during some periods of last year being sold as low as 5 pence per gallon. Naturally the decline in the demand for the latter has been a matter of great concern to the producers, the market for this product being a restricted one. There are only four or five producers of bisulphide of carbon, and since the retirement of the old established firm of Jesse Fisher & Son, three years ago, the price has gone up. Sulphide of zinc is a chemical which still has a restricted employment; its price being about three times that of the oxide, it needs no further explanation as to its undoubted merits failing to secure due recognition.

A LONDON contemporary has recently had some severe strictures upon rubber manufacturers who undertake contracts for goods according to specification and then lightly alter the mixings to suit their own convenience, ignoring the fact that the customer may have very particular reasons for wishing the specification to be rigidly adhered to. That conduct of this sort is reprehensible and inimical to the best interests of the trade can hardly be denied, but there is another side to the question which ought in fairness to receive consideration. This has reference to the fact that a particular brand of rubber may not be always procurable, and further than this, brands of rubber which are bought and sold in good faith under one name often vary a good deal in their resinous contents—quite enough to cause the chemist of the purchaser of the goods to become suspicious. It is

pointed out by our contemporary that testing of goods is much more commonly carried out at the present day than was the case a few years ago. There is nothing to be urged against this procedure except that as a good many of the analysts work entirely by published methods and have had no special acquaintance with the manufacture they are apt to think that rubber goods ought to yield figures as consistent as those obtained say in the case of metallurgical products. To arrive at correct deductions from the analytical figures obtained is by no means an easy matter, and it is readily conceivable that injustice may be done. This, however, is not the particular point I wished to emphasize. My main object was to point out that alteration in the rubber contents of a mixing may often be made as a matter of necessity and not at all for any nefarious purposes of gain. It is a question whether in cases of this sort it would not be advisable for the manufacturer to put the position clearly before his customer, taking of course the risk of the work turning out unsatisfactorily. At any rate this would clear him in the eyes of the customer from any intention to defraud and so prevent a rupture of amicable business relation. The fact that the natural resins of rubber are increased during vulcanization to an uncertain amount should be constantly before those who base the acceptance or rejection of goods on the alcoholic extraction test alone. Where the matter in dispute is merely concerned with an excess of mineral matter the analyst can of course express his opinion in precise terms and manufacturers who err in this way are in no way deserving of sympathy. Despite the great strides which the chemical analysis of rubber goods has made of late years, there still remains need to caution the analyst against hasty deductions if justice is to be done all round.

It is a moot point with many chemical and allied manufacturers whether or not to patent any new process they bring out.

CHEMICAL PATENTS. The publication of the details naturally gives the unscrupulous opportunity for surreptitious infringement; on the other hand, if a patent is not taken

out there is always the danger of the process being given away by workmen. I was forcibly reminded of the complexity of the situation during a conversation with the discoverer of a chemical process closely connected with rubber. On my asking the patentee—for the process was duly patented—if he was not afraid of infringement he replied "Not at all," because the published specification was purposely incomplete and misleading. "Any one," he went on to say, "who attempts to work by its aid will not be able to effect the object in view." Procedure of this sort it is conceivable may easily prove disadvantageous to the patentee in a court of law, but leaving this contingency aside there is undoubtedly a good deal to be said in favor of the retention of essential details. If the case resolved itself into one of actual misrepresentation or misstatement I am not sure that the patentee would not become amenable to the law, though I cannot point to any judicial utterance on the point. It is well known that Thomas Hancock worked his "pickle" as a secret process for many years until he was given away by a workman, and in the present age, when commercial morality seems, if anything, to be on the downward grade, there is so much chance of a workman being "got at" that the risk attending the working of a secret process is one that needs careful consideration. It is no use

A PLEA FOR CAUTION.



trying to lay down any hard and fast rule on the matter; each inventor must decide for himself as to the best course to pursue; but where a chemical process is carried out in part by different men who are not in direct communication with one another and where moreover there is good reason to believe in their trustworthiness, substantial reasons seem to exist why the aid of the Patent office should not be evoked.

THOUGH no doubt the majority of people are exultant at the continued sunshine we are enjoying this summer in contradistinction to the prevailing conditions of the last two years, the fact forms a source of jeremiads on the part of many rubber manufacturers. No one is particularly keen to buy waterproofs, while with regard to garden hose the hot weather seems to have come somewhat too late. If people do not purchase in May they think they can get along till next season. The people who can have nothing to complain of are those interested in the sale of lawn tennis balls. The game is going stronger than ever, and the number of tournaments shows its increase. I understand that six gross of balls were used at the All England tournament at Wimbledon, these being supplied by Messrs. Slazenger, who in this respect still hold the position from which they ousted Messrs. Ayres two years ago. The fact that the Doherty Brothers, who took the Davis Challengecup from America last year, are on the board of Messrs. Slazenger, Limited, is not without significance. There is a slight difference between the Ayres and Slazenger balls, and as the leading players like to stick to one brand, it follows that the bulk of the tournament business of a season goes to one firm.

THERE is nothing surprising in the fact that a rubber trust has been formed in Austria, at least to those who have followed the progress of Teutonic industry. Over production is always followed by a combination of manufacturers in Germany and Austria—a fact which has had a very great deal to do with the dividends paid by various branches of the chemical manufacture. This is generally overlooked by our education enthusiasts who are never weary of pointing to German education and industry as the main cause of their preëminence in the chemical trades. Not that I wish to pose as an antagonist of the *kartel*; in a great many cases it is the only way out of intermarine competition. I merely wish to point out that the technical-education people are often ignorant of a good many important facts connected with a fair comparison of home and foreign industries. As some of the Austrian rubber firms have branch houses in London, English firms will of course watch with interest the new state of affairs in the dual monarchy.

I AM not here going into a medical matter, but the report of an expert committee appointed by the Home office to enquire into the increased mortality among Cornish miners has a remote bearing on the rubber industry. It is recommended that the dangerous dust from the rock drills be rendered innocuous by a water spray, and to put this recommendation into practise the use of rubber hose must be resorted to. It is suggested that the water shall be taken along the levels by iron pipes and taken to the jets by armored rubber hose of narrow base. As there is little doubt that regulations enforcing the use of water jets with rock drills both in England and the Transvaal will shortly be issued, there should be a considerable demand for the necessary rubber tubing, and those makes which are best calculated to withstand the rough usage they must expect will naturally be in the greatest demand. So far the electric rock drill has not made much progress in metal mining, and the prospect of dry mines being pretty generally converted into wet ones is not in favor of their further adoption.

The laying of cables in wet mines is a somewhat risky proceeding, because even with the lead covered cables there is constant danger of corrosion from the presence of acids in the water.

WITH the remarks on scrap rubber in the July issue of THE INDIA RUBBER WORLD, I am quite in accordance. Slackness in trade in the articles into which scrap enters certainly accounts for a decreased demand and there is also the increased amount put on the market by collectors. All sorts of old rubber articles which formerly went on the waste heap are now carefully put on one side to await a dealer's offer, and the rubber manufacturers say that scrap sellers are multiplying to an undue extent. Of course the term "scrap" is a wide one and while some brands have a ready sale there is a good deal of stuff which the dealer finds it very difficult to get rid of, and it is open to doubt whether storing it up for better times is the best policy to pursue.

It is to be hoped that the "safety" vapor and shower bath illustrated in the last issue of THE INDIA RUBBER WORLD is really what is implied by the title. There have been some fatal cases in England in connection with the cheap Turkish bath at home, and in the case of a recent inquest the inventors or sellers were severely reprimanded; indeed the question of prosecution for manslaughter was raised. I don't profess to have mastered the details of the apparatus, but I think the use of spirit lamps by women in such a connection ought to be discouraged.

IN an article on Gutta-percha reprinted in our London contemporary the two following passages occur: "Jelutong is extensively used in American industry, especially for manufacturing toys," and later on: "Increasingly large quantities of Jelutong go to America. It would be worth while for manufacturers in the United Kingdom to try and ascertain in what special directions it is used there so extensively." Not to comment on the fact that the author has previously answered to a great extent his own query there are many who would like to know if the toys referred to are rubber toys. Surely it is not to this use that the bulk of the Jelutong, or Pontianak, as it is best known in England, is put.

A NEW motor tire combining, it is claimed, all the properties and virtues which the ideal article should possess, will shortly be before the public. The prospectus of the new company, called the Securitas Motor Tyre Co., has been in private circulation. The capital is to be £50,000, of which £29,000 is offered for subscription. Evidently some flaw has been detected in the specification, as we are told that this is to be amended on the advice of Mr. Bousfield, K. C. The upkeep of a set of the new tires is to not exceed £3 to £15 per annum against (it is said) £50 to £100 in the case of other makes.

IN the person of Mr. Thorp, late general manager of the Continental Caoutchouc and Gutta-percha Co. of Hanover, the rubber trade has recently lost by death a prominent man. From occupying in early life quite subordinate positions in the works of Messrs. Charles Macintosh & Co., Limited, he rose in the course of a few years to the managerial position just mentioned, which carried with it a salary running into four figures, and retiring therefrom a few years ago on a pension.

THE desire of the big cable firms on the Thames to become free of the restrictions of the London County Council has been mentioned before. Henley's Telegraph Co. are about to build extensive premises at Northfleet, while the new works of Messrs. Siemens Bros. & Co. are situated at Stafford, though this is not a case of entire removal, the old works on Thames side being still in full use.

WEATHER  
AND THE  
TRADE.

THE  
AUSTRIAN  
KARTEL.

MINERS'  
PHTHISIS.

RUBBER  
SCRAP.

DAUGHTER  
GOODS.

NEW TIRE  
COMPANY.

OBITUARY.

NEW  
PREMISES.

## MANUFACTURE OF FRUIT JAR RINGS.

BY J. W. C.

THE production of fruit jar rings has assumed such proportions as to make it an important branch of the rubber industry. Methods of production and packing of the goods made have, in the presence of ever growing competition among manufacturers, undergone great improvement within the past few years.

A jar ring is not difficult to make, but, like every other thing in the rubber line, it has to be made "just so." The compounded stock is generally run through the tubing machine to a slightly larger outside diameter than is required, it being necessary to offset the reduction in size that results when the material is wrapped for curing. As the stock is run from the tubing machine in the form of a cylinder or tube, it is cut off in lengths of, say, 30 inches. These are immediately placed upon iron or steel tubes 8 or 10 inches longer than the length of stock. The outside diameter of the steel tube being that of the inside diameter of the intended jar ring, the cylinder of stock is tightly bound to the steel tube by means of wet cloths.

The workman first places a ring or washer on either end of the tube and against the ends of the cylinder of gum, to prevent its lengthening under pressure. These washers are held in place by means of a sheet of muslin called a "jacket," which is spread on by hand while wet, completely covering the cylinder and going  $1\frac{1}{2}$  times around it. To accomplish this successfully the tube is placed horizontally upon a table and adjusted to small rollers or wheels at either end, which are made to revolve at a high rate of speed. Upon this "jacket" is then smoothly wound a strip of muslin long enough to make two thicknesses of wrappings. This is also applied wet, the workman exerting his strength so that the wrapper be tight as well as smooth. The cylinder is then ready for vulcanizing.

A tubing machine running a jar ring stock, should turn out from 5000 to 6000 pounds in ten hours. To produce and handle this quantity will require the labor of three men at the tubing machine and four men at jacketing and wrapping. Six thousand pounds of an average weight white Mason jar ring, and 5000 pounds black, represent a fair day's work, and would make, approximately, 1000 tubes.

The cylinders as above prepared are placed on the carriage of an open steam vulcanizer, and receive a cure of 30 minutes at 50 pounds pressure, more or less, according to requirements. Wrappers and jackets are quickly removed and the cured cylinder is ready for the cutting machines. There are several styles of these machines, but the principle in all is the same: To slice or cut the gum cylinder into jar rings of a specified thickness, at a high rate of speed. Compressed air, admitted to the interior of the cylinder, expands it sufficiently to admit of its being quickly thrust upon a mandrel. This mandrel is adjusted to the cutting machine, where it is made to revolve rapidly. The cutting is done by a sharpened steel blade securely fastened to a traveling carriage and which receives its cutting stroke from a cam. Such a machine will cut from 350 to 500 pounds in ten hours. Workmen should be charged with value of rings spoiled by a dull or wrongly adjusted cutting blade, or other neglect. Waste from cutting and imperfections in stock should not exceed an average of 2 per cent.

The cut rings are stripped from mandrels, compressed air or some simple form of machine being used. These rings are spread upon tables where they are inspected, counted, tied in bunches, and packed. Rings are counted out in lots of a dozen, which is a convenient form for tying in bunches, or placing loose in fancy boxes holding a dozen rings or in cartons holding

1 gross. Large canneries and other concerns order jar rings shipped in bulk in barrels for their particular use, but the public has become fastidious and must now have a smooth, shapely ring, of a certain color, and packed in a handsome box. All jar rings are not run on the tubing machine, the expensive fine red rings being built up into cylinders by means of the hand roller. The cutting also is more successfully done by hand on slow speed lathes, rather than by the automatic machines.

An important item in the successful cutting of jar rings is the cover for the mandrels. These mandrels are made of brass tubing, which must be covered with some suitable material into which the point of the cutting blade may strike when it passes through the gum cylinder, without injury to the knife or the rings cut. This covering is generally of a cheap grade of compound, and it is the practice in some factories to hand roll it onto the mandrel, and then wrap and cure in the usual way, after which it is dressed down to size on a hand lathe. A good deal of this process, besides being expensive, is unnecessary. The layer of stock on a mandrel becomes so badly cut up in two or three days' use on a ring cutting machine as to render the recovering of the mandrel a necessity. Cover it with a good tough stock, sheeted very thin on calender, and built up to exact diameter required by means of hand roller. The mandrel is then ready for use. The uncured stock will stand more punishment than when cured, and when worn out can be stripped from the mandrel, sent to mill room, softened, again sheeted on calender, and used on mandrels again and again.

By the first named method the labor cost is much greater, and the loss in cured stock fully 90 per cent. By the second method about 90 per cent. of the stock is saved for continued use. I know of one large factory that saved \$100 per month by this change in methods. Some factories experience trouble, in that stock used for white jar rings comes "blowed" or full of small pores. Its possible cause is moisture still remaining in some of the compounded ingredients. This can be overcome by "scalding"—i. e., working the stock over for 30 minutes or more on a very hot mill.

The vacuum jar ring differs from the flat jar ring in that it is run from the tubing machine in the form of a small, round cord. An expensive stock of a light red color is generally used. The work on the tubing machine requires great care and skill to keep the cord to an exact gage. It is therefore frequently weighed and calipered during this operation. As fast as run from the machine it is wound on zinc covered drums, and until the surface of the drum is covered with one layer. A diagonal cut is then made through this layer, permitting of its being spread upon a tray. At the work table it is again cut, this time into lengths corresponding to the diameter of the rings to be made. The diagonal cut is preferable, as it admits of each piece being formed into a ring with a splice joint. The work of splicing is done by hand, girls being employed. It requires great skill to handle the stock without stretching and do splicing neatly. Large covered pans are used in curing, the rings being covered with talc. A bath in glycerine brings out the bright color of the stock. Tied in bunches of 1 gross, the rings are then ready for shipment.

RUBBER GOODS IN AUSTRALIA.—A correspondent of the *Ironmonger*, the representative British hardware journal, reports on the origin of the stocks of hardware found in a leading store in Melbourne, Australia, his letter including the following items: Wringers, with India-rubber rollers, American makes; India-rubber hose pipes, North British Rubber Co., Limited, and some American cotton covered.

## FUTURE PRODUCTION OF RUBBER IN AFRICA.

*By Gustave van den Kerckhove (Brussels).*

FOR the last five years the output of rubber from Central Africa has been large, and imports from that source to the European markets have been on the increase. This prosperous state of affairs, as far as rubber is concerned, has been due to the great exploration work undertaken by the Belgian and some French trading companies in the "dark continent." While the production was increasing, the consumers of rubber, and especially the American manufacturers, wanted more and more. The trading companies were thus in the enviable position of being able to produce good quantities of rubber and to obtain, as a rule, fair prices. But apparently a turning point has now been reached, some reasons for which I shall endeavor to point out.

The output of rubber has been large, as I have said, in Central Africa; that from the West and East coasts is not larger than two or three years ago. In fact, rubber exports from the English colonies of West Africa have been falling rather fast. Lagos, Sierra Leone, and the Gold Coast are now very small exporters compared with their former production. In Lagos, formerly some 2000 tons of rubber were gathered yearly from the *Kickxia* tree, whereas this tree is now very rare in that colony. In Sierra Leone the imposition of the hut tax had the effect of driving rubber collectors and the native merchants to Conakry (French Guinea) to sell their produce. As for the Gold Coast, mining now offers more attractions to investors than the collection of rubber. The Portuguese colonies in Africa have also declined as rubber producers.

Without doubt the interest of the future in the rubber output of Africa relates to Central Africa—to the Soudan, to the French Congo, and to the Congo Free State, which countries we may here consider in the order named.

## SOUDAN.

To have a fair idea of the rubber production of this vast portion of Africa, we should examine the progress made by Conakry as a rubber trading center, as most of the rubber produced in the Soudan finds its way to Europe through Conakry. Also, have a look at the new European rubber market, Bordeaux, which has almost monopolized the trade in French Guinea and Soudan sorts. These figures are of interest:

YEAR.	Conakry Exports.	Bordeaux Imports.
1897.....	1,225 tons	52 tons
1898.....	1,888 "	89 "
1899.....	1,399 "	175.5 "
1900.....	1,464 "	239.5 "
1901.....	1,039 "	235 "
1902.....	1,155 "	678 "
1903.....	1,468 "	1,113 "

As will be seen from the above figures, there was about 1901 a falling off in the exports from Conakry, but this was the result of some restrictive laws to regulate the gathering of rubber. The imports at Bordeaux, however, have shown a steady gain, the bulk of the arrivals there being from Soudan, the exceptions being principally from Casamance, the Ivory Coast, and French Congo.

It is well known that the French authorities have established restrictive laws regulating the tapping of rubber trees and coagulation of the *latex*. These have given good results as far as quality is concerned, the natives taking good care not to offer for sale any foul rubber. The opening of some large tracts of land in the French Upper Niger, which forms a portion of the

Soudan, will bring to the coast in the near future some new rubber. In the Foutah-Djallon district there are immense lands on which 50 per cent. of the vegetation is reported to be rubber trees and vines, of which hardly 10 per cent. have been tapped. Already considerable plantations of rubber, both trees and vines, have been established there.

The lately completed railway from Conakry to the interior will facilitate the trading of French firms and companies in certain parts of the Upper Niger, which will contribute a new impulse to the rubber trade. On the whole, the future of the Soudan rubber trade is hopeful, but it would be a great mistake to conclude that this part of Africa is going to become all of a sudden a large exporter of rubber. The exports may be expected to increase gradually, but very slowly.

## FRENCH CONGO.

SINCE the adoption of the policy of granting large concessions by the French government, more than forty French companies have been formed, with the principal object of gathering rubber in this part of Africa, but very few have met with success. Perhaps six or seven companies have become regular exporters of French Congo rubber. Some of these companies—for instance the Upper Ogooué Co., the Upper Oubanghi Sultanats Co., and the Upper Sangha—have done good work, every year increasing their production. Several other companies have even abandoned their concessions.

There is not the slightest doubt that the French Congo is very rich in rubber trees and vines. Then why is it that only half a dozen firms seem to go ahead? The answer is simple enough: Want of fresh capital, want of labor, and want of means of transport. The rubber export statistics for the French Congo are as follows:

1902.	1903.
688 tons.	842 tons.

—showing an increase of about 154 tons.

Up to the present date the rubber areas of three large basins are known and have been explored—namely, the Ogooué, the Oubanghi, and the Sangha. Of course, other parts of the French Congo have been explored, but results with regard to rubber have not been very encouraging. There is talk again of the eventual building of a railway connecting Loango, on the coast, with Brazzaville, on the Congo, at Stanley Pool. If this project should be carried through, general trade would certainly benefit by it. As in the case of the Soudan, a rapid increase in rubber production must not be expected in the French Soudan, though the exports will very likely show, for the coming years, a gradual increase of a few hundred tons.

## CONGO FREE STATE.

Now I come to the great supplier of African sorts. The increasing output of rubber from the Congo Free State for several years astonished not only the rubber trade, but the world. The phrase used at the beginning of this article regarding a turning point having been reached, referred to the future production of the Congo Free State.

After some six or seven years of prosperity, the authorities of the Free State, having given full confidence to the capital invested in the colony, have reached the conclusion that the time has come to put in full force the laws regulating the gathering of rubber. These wise regulations relate especially to the pro-



tection of rubber vines and trees, and to replanting. Forest inspectors and comptrollers travel from one point of the country to another, imposing penalties for the slightest neglect of the regulations. The result has been that in many cases traders have to give more attention to the replanting than to the collection of rubber.

In 1899 a decree was published, stipulating that 150 young vines should be planted for each ton of rubber exported. In 1900 this decree was modified, so that every ton of rubber leaving the Congo Free State represents 500 new vines planted. The officials have established about 125 gardens (*jardins d'essais*) for this purpose, employing more than 7000 workmen.

These replanting regulations appear to have given good results, and actually millions of young planted *Landolphia* vines can be seen growing in the Congo Free State. Roughly estimated, about 25,000,000 hectares afford good soil for the growing of the *Landolphia* vine. To give an idea of the importance of the replanting regulations, it is perhaps interesting to mention that a single company, trading in the Equateur district, has actually more than 10,000,000 young planted vines.

A very important question is at what age does a *Landolphia* vine yield *latex*, and what amount of rubber can be expected from a vine? The productive age of *Landolphia* may be put at five to six years; earlier tapping of the plant means risk to kill it. At this age the vine should give of about 6 to 7 ounces of *latex*, which means 4 to 5 ounces of dry rubber. By the crushing method for collecting the milk a vine of the above age should give about 3 ounces more *latex*, but in that case the plant, but not the root, is killed. The root being saved gives a new vine, which this time gives 6 to 7 ounces of *latex* in less than four years.

For the present, and perhaps for four or five years to come, these replanting regulations will cause a decrease in the rubber output of the Congo Free State. Here are some instances of the decrease which is already very apparent: Three of the most important companies trading in the Congo, including the company producing the well known Lopori rubber, have received together during the first six months of 1904 about 639 tons, which means a great decrease compared with the arrivals of the first six months of the previous year. The total decrease for 1904 for these three companies may be estimated at 50 per cent. The other trading concerns have not produced more rubber than in 1903. The "Kasai Syndicate" for the past six months has sent home about 460 tons. This is satisfactory, in a way, but the expectation was about 1400 to 1600 tons yearly.

Is this situation going to last, and is there to be a further decrease? In my opinion there will be a further decrease, and the general output of the Congo Free State for a few years will be smaller, until plantations now under way begin to yield.

#### CONCLUSION.

GENERALLY speaking, the West and East coasts of Africa do not actually produce more rubber than last year, and there are no prospects and no reasons for an increase; in fact, a decrease is more probable. The Soudan and the French Congo may slightly increase their exports, but these will not compensate the expected later decrease in the Congo Free State. Therefore, a decrease in the general output of rubber from Africa for the next four or five years, at least, appears probable.

EDITORIAL NOTE.—For further information and suggestions bearing upon this subject, see "French Soudan as a Source of Rubber," in this Journal, November 1, 1901—page 39; "Rubber Production in the Congo River Country," December 1, 1901—page 83; "How Rubber Comes from the Congo," May 1, 1903—page 267.

#### RUBBER GATHERING IN RHODESIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Some time ago I promised to write you in regard to rubber in this country and started a letter on the subject, but after reading an article headed "Rubber Resources of Rhodesia" in your issue of September 1, 1903, I decided to make a further investigation, as many of the statements therein set forth did not appear to me to be correct. I have waited, therefore, to see samples of rubber taken, in order that there could be no mistake in regard to them.

I will start with *Landolphia florida*, the common vine yielding *latex*, and I send you three samples of rubber from this plant, marked Nos. 1, 2, and 3. No. 1 was taken from a vine 6 inches in diameter and about 200 feet in length, including tendrils or small branches, by which it hangs onto the forest trees and undergrowth. No. 2 is from a vine 2 inches in diameter. No. 3 is from the root of the vine, after the vine has been killed by tapping. The vine bears a red fruit, shaped like a plum, and of a sweetish but peppery taste, of which the natives, and also birds and monkeys, are very fond.

Nos. 1 and 2 are both obtained from the vine in the same way. The natives have many ways of extracting rubber, always adopting that which appears the easiest in any given case. One of the most usual methods is to hack the vine with an axe from as high as he can reach to the ground. Then sitting down at the foot of the vine he clears away the loose dirt and leaves and allows the *latex* to drop or run as it pleases, and from time to time, between a smoke and sleep, he gathers up the *latex* and rolls it into balls, large or small, as the fancy takes him. For ease in returning to his camp, he sticks the balls one to the other as in No. 2, and with his string of rubber on one shoulder and his axe on the other, he goes to his village, his arms being free to follow the movement of his legs at their leisure. Another way of procuring the *latex* is to climb the forest tree and cut the tendrils of the vine by which it hangs and then, having got the vine on the ground, hack it all over with the axe and let the sap flow. As it runs from the vine it is smeared on the body, and when partly congealed rolled into balls, but only smooth skinned natives can do this.

No. 3 is made of *latex* obtained from the root after the vine has been cut away, and I have heard it described by some people as the "root rubber" plant, but it is not. I have never seen a root rubber plant. The roots of the vine, after the vine has been cut away, throw out suckers like most other trees and vines do here when cut down and the roots left. They send up a number of suckers which rise to about 2 feet, and if allowed to grow would no doubt form a larger and stronger vine than the original growth, but with game feeding on them and the veldt fires burning them off every year, they seldom reach more than 2 or 3 feet in height. The roots having no outlet above ground, develop large and long roots and throw up suckers along the joints of the root. The rubber from the root is obtained as follows: The root is dug up and cut into short lengths of from 5 to 6 inches and is then pounded in a wooden mortar; it is then put into hot water and the bark and wood removed, and the sticky mass remaining is made into cakes or balls, as No. 3.

The other two samples, Nos. 4 and 5, are from the vine *Landolphia Kirkii*. The difference between this and *Landolphia florida* is that it bears no edible fruit and that game do not feed on its leaves, but in appearance the two plants are much alike. Sample No. 4 was extracted by cutting the vine into lengths of from 1 to 2 feet, smearing the *latex* on the body and then rolling it into small balls as it congealed. No. 5 was obtained by sticking the point of the axe into the vine and making cuts about

$\frac{1}{4}$  inch long and about 2 or 3 inches apart, from the root up the vine as far as the men could reach, and as the latex oozed out and congealed it was picked off and made into small balls, as sample No. 5, and the balls stuck together for ease in carrying.

I only know of three kinds of trees in this country giving a sap which is elastic, but have never heard of any commercial value having been attached to the latex from them. It is used by the natives for trapping birds. The names of the trees are "Kuckchie," which bears a fruit like a small wild fig, largely devoured by natives and pigs; "Mtoe" or "Tomboze," a tree of extra large growth, bearing a bean filled with white milk which, when boiled, is not unlike in appearance well kneaded dough, not sticky and very elastic; and "Mkuze," the same as "Mtoe" but bearing no bean and having a white flower.

JAMES HIGHFIELD.

Fort Jameson, Rhodesia, March 19, 1904.

EDITORIAL NOTE.—From a physical examination of the samples sent by our correspondent, Nos. 1, 2, and 3 appear very much like unripe Mozambique, and should bring, at the present state of the market, 75 to 85 cents a pound, Nos. 1 and 2 being better than No. 3. Samples Nos. 4 and 5 are very similar to black Kasai, and would bring about 95 cents a pound unless, in working, the rubber should soften up.

Mr. Highfield writes from a region westward from the lower end of Lake Nyasa, and from British Central Africa, the rubber production from which territory has well nigh ceased.

Rhodesia is an extensive region, and his district is some distance removed from those referred to in the article he mentions in our issue of September 1, 1903. This fact may serve to explain apparent differences between Mr. Highfield's observations and those noted in our former issue. By the way, is Mr. Highfield certain that the *Landolphia* species he mentions is *florida*?

## STATE OF THE GUTTA-PERCHA TRADE.

FROM "THE STRAITS TIMES" (SINGAPORE), JUNE 9.

THE announcement that a new cable is to be laid, connecting the Pelews Celebes, the Philippines, and Shanghai—apart from its general commercial and political significance—is of considerable local importance, as being calculated to give an upward tone to the somewhat depressed gutta market. Though the prices of gutta to-day are much better than they were ten years ago, the market is nevertheless stagnant at the present time, and that stagnation is due to two causes. The first of these is the reaction subsequent on the completion of the All British cable, and that reaction the new Holland-Germany project will tend to stem. The other is the distrust that has been awakened in the purchasing markets of the West, with regard to the quality of gutta exported from Pontianak and Singapore.

This gutta—as is well known to those interested—has been largely adulterated of late years with a product imported hither from Brazil [Evidently Balata is meant.—EDITOR THE INDIA RUBBER WORLD.] for the sole purpose of adulterating gutta. It is an adulterant of a superior order, and cannot be detected until the gum is put into manufacture, when the flaw shows itself, and the gutta is condemned. Meanwhile, large fortunes are being made by those local and Pontianak traders who make judicious use of this interesting South American adulterating material.

The practice, however, seems to have been carried too far in some instances, and THE INDIA RUBBER WORLD and other trade journals have been complaining, with the result that a

big stock of the gum—good and bad—has accumulated here; and, owing to bad prices, the river traders in Borneo, Sarawak, and elsewhere are also holding their stocks for a better market. The projected new telegraph line will require about 2500 miles of cable; and for this vast length, a large amount of gutta will be necessary.

Whether the demand thus created will be sufficient to entirely relieve the local congestion, is of course a matter for time to determine; but the sale of impure gutta as pure gutta by exporters in this part of the world has so injured the reputation of the article, that the purchasers will not seek the Straits with the same confidence as formerly. Systematic cheating on the part of the collector, the river trader, and the exporter proper has too seriously hurt the trade to admit its being able to recover itself at moment's notice, no matter how fair the opportunity.

EDITORIAL NOTE.—The above assertions regarding the falling off in the Gutta-percha trade are supported by the customs returns of Great Britain, by which it appears that the imports of Gutta-percha for the first six months of three years past have been as follows:

	1902.	1903.	1904.
Pounds.....	5,746,532	2,758,672	1,287,440

All the above quantities are not credited to Singapore, for British returns of Gutta-percha embrace also Balata. Which fact is of interest in connection with another statement copied above from *The Straits Times*—that Gutta-percha is now being adulterated at Singapore with a South American gum. We find that England has exported "Gutta-percha" to Singapore as follows, and it is credible that the material referred to is Balata, for use as claimed in our Singapore contemporary:

### BRITISH EXPORTS OF GUTTA PERCHA TO SINGAPORE.

1897... ..pounds	2,800	1900... ..pounds	24,304
1898... ..	11,872	1901... ..	86,800
1899... ..	15,904	1902... ..	80,528

## "CAMETA" RUBBER OF BRAZIL.

BY LOUIS H. AYMÉ, UNITED STATES CONSUL.

THE India-rubber production of the Amazon valley presents a problem of the very greatest interest. Much is known to-day about the *Hevea* tree, its latex, the methods of collection and coagulation of the latex, and the subsequent handling of the rubber, but doubtless much more is still to be learned. It is very difficult to obtain any information from the Indians except concerning the regular routine work. The Indian can not, or at least does not, make generalizations, and does not note the causes of the phenomena he scarcely observes. Many of the data for the solution of the problem are therefore still lacking.

In the special grade of rubber known as "Cameta" I think an important indication leading to a solution of the rubber problem may be found. Cameta rubber is a special grade of *entrefino* or *sernamby* rubber—chiefly the latter. I am informed that small quantities of Cameta are beginning to come from some of the older districts that were exploited after the Tocantins, as the trade increased. This would seem to indicate the probable duration, under present conditions, of the production of fine rubber from any given field as from 20 to 30 years at the most.

Cameta rubber is merely self-coagulated latex; at least such is the opinion of a very intelligent rubber collector. He said that even to-day there is much carelessness in tapping the trees to get the "milk." In the early days this carelessness was greater still. The constant wounding of the bark causes the

trunk of the tree to swell very greatly, a tree that has been much tapped assuming bottle form, tripling and quadrupling its diameter. As the tapping goes on scar is inflicted on scar and there comes a time when the milk no longer flows, but merely trickles or oozes out. Then it is no longer practicable to collect the milk from the hundreds of small cups into a single receptacle, and it is allowed to slowly ooze and coagulate in the cups. The result is Cameté rubber; or, as my informant put it: "Cameté rubber is the kind of rubber you get from old, tired out trees."

It is this man's belief that if those same trees were allowed to remain quiet for some years they would recover much of their former productiveness, except where they have been injured beyond remedy. He believes that if trees are carefully tapped, so that the minimum of injury is inflicted, and are not too heavily drawn on, they will continue to give practically the same amount of latex annually for an indefinite time.

If it should be found hereafter that districts which now yield both fine and coarse rubber come to yield only Cameté, a positive factor in the determination of the probable future of rubber production would be attained. The whole question is of great interest and should be studied.

Pará, Brazil, June 7, 1904.

EDITORIAL NOTE.—The above suggestions appear quite compatible with the following reference to "Cameté rubber" in Mr. Pearson's "Crude Rubber and Compounding Ingredients:"

Cameté rubber is so called from the port of that name, on the Tocantins river. It is noted for the superior quality of its "sernamby" grade, the "fine" being the same as from the Islands, but rarely seen. This rubber comes in the form of little cups pressed into large "negro-heads."

At times the quotations for Cameté coarse rubber have been materially higher than for Islands coarse, though never equal to Upriver. Of late, however, Cameté and Islands coarse have been quoted frequently at the same figures. During the past three years Cameté rubber has averaged 2 cents per pound more than Islands coarse at New York.

#### AMAZON CABLE INTERRUPTIONS.

ANNOUNCEMENT was made on July 20 of the interruption of the cable service between Pará and Manaus, above Itacoatiara. Such interruptions are so frequent as no longer to possess any novelty, and the service is so irregular as to rob the cable of half its value to commerce on the Amazon. The Amazon Telegraph Co., Limited, though put to heavy expense for several years past in keeping their cable in repair, may not be aware of the cause of the interruptions, as explained to THE INDIA RUBBER WORLD by Captain Arthur Schindelar, a gentleman of long residence and wide observation on the Amazon. According to this authority it is desirable, in the manipulation of rubber prices by the speculative merchants at Pará, to keep buyers of rubber ignorant, as far as possible, of conditions upriver. Hence, whenever prices are to be moved up a few points, the Amazon cable is cut, and deceptive reports are distributed regarding a shortage of stocks at Manaus. This gentleman does not claim to have seen personally any cutting of the cable. Captain Schindelar, by the way, is now visiting the United States for the purpose of interesting capital in a plan for controlling the rubber trade of the Amazon.

SEND for a free copy of the Index to "Crude Rubber and Compounding Ingredients", by Henry C. Pearson and published by THE INDIA RUBBER WORLD.

#### RECENT RUBBER PATENTS.

##### UNITED STATES OF AMERICA.

ISSUED JUNE 7, 1904.

- N O. 761,643. Hose coupling. A. Backmann, Virginia, Minn.  
 761,777. Pneumatic tire [single tube; tread reinforced with asbestos cloth]. C. W. Maxon, West Bay City, assignor of two-thirds to S. A. Bush, South Arm, and W. L. French, East Jordan—all in Michigan.  
 761,847. Tire [composed of a circular casing and a plurality of segmental members located inside]. J. Millar, assignor of one half to H. Willoughby, Jr., both of Kearney, N. J.  
 761,879. Fire and waterproof flexible tubing. G. M. Costello, Philadelphia.  
 761,890. Process of making rubber bag bodies. I. F. Kepler, Akron, Ohio, assignor to The B. F. Goodrich Co.  
 761,950. Hose coupling. L. Dreifuss, Danville, Pa.  
 761,989. Pneumatic horse collar. W. Ost, Newark, N. J.  
 762,017. Swimming glove. C. G. Ammon, Pittsburgh, Pa.  
 762,039. Antiseptic attachment for telephone mouthpieces. J. Freely, Ladysmith, Canada.  
 762,063. Process of making hollow rubber articles. I. F. Kepler, Akron, Ohio, assignor to The B. F. Goodrich Co.  
 762,064. Process of making hollow rubber bulbs or other articles having necks or projections. Same.

ISSUED JUNE 14, 1904.

- 762,310. Rubber tire. J. Holland, Akron, Ohio.  
 762,339. Hose coupling. H. W. McGibbeny, Findleyville, Pa.  
 762,350. Hose coupling. J. L. Rehnstrom, McKeesport, Pa.  
 762,462. Horseshoe pad. C. W. Zaring, New York city.  
 762,473. Hoofpad for horses. C. A. Ellis, Warwick, R. I.  
 762,474. Rule. C. S. Fosselman, Hartford, Conn.  
 762,501. Pneumatic tire. G. Steinberg, Paris, France.  
 762,737. Operating pad or receptacle. C. W. Meinecke and D. Hogan, assignors to Meinecke & Co., New York city.  
 762,740. Pneumatic tire. T. Midgley, Columbus, Ohio.  
 762,777. Hose or pipe coupling. S. N. Vernon, Sonora, Ohio.  
 762,788. Hose coupling. G. W. White, Footscray, assignor to J. Waggen, Hawthorn, both in Victoria, Australia.  
 762,789. Garment supporter. B. C. Williams and F. C. Heine, Fort Wayne, Ind.  
 762,832. Physical development apparatus. K. L. Minges, assignor to the Cartilage Co., both of Rochester, N. Y.  
 762,843. Method of regenerating vulcanized rubber. R. B. Price, Chicago.  
 762,852. Eraser. H. B. Tooker, New York city.

##### Trade Marks.

- 42,796. Waterproof outer garments. Aquascutum, Ltd., London, England. *Essential feature*.—The word AQUASCUTUM. Used since Aug. 13, 1865.  
 42,814. Crude rubber like gum. The American Crude Rubber Co., Colorado Springs, Colo. *Essential feature*.—The letters P. F. U. [arranged in monogram.] Used since Feb. 11, 1904.

ISSUED JUNE 21, 1904.

- 762,954. Flexible metallic covered tubing. T. Smith, Chicago.  
 762,998. Horseshoe. J. C. Higgins, Boundbrook, N. J.  
 763,010. Hose coupling. W. E. Meredith, assignor of one half to C. W. Heckman, both of Richmond, Va.  
 763,044. Rotatable or reversible heel for boots, shoes, etc. J. Clausen, Cologne-Poll, Germany.  
 763,052. Colt or calf weaner. J. P. Etchison, Gallegos, New Mexico.  
 763,100. Pneumatic brush. E. B. Howell, Butte, Mont.  
 763,145. Vehicle wheel [with pneumatic tire]. J. A. Brennan, West Orange, N. J.  
 763,175. Hose coupling. E. H. Gold, Chicago.  
 763,191. Hose mender. J. B. Marvin, Frankfort, Ind.  
 763,205. Drawing pen [with reservoir handle]. G. R. Pyne, Springfield, Mass.  
 763,207. Belt conveyor. J. J. Ridgway, Rosebank, N. Y.  
 763,210. Hose coupling. E. Schwamberger and J. Thomson, Pittsburgh, Pa.  
 763,236. Hose coupling. J. Winkler, McKeesport, Pa.



- 763,241. Reservoir or fountain brush. J. Ballance, New York city.  
 763,251. Expandible roll. J. H. Breck, Bristol, N. H.  
 763,252. Cushioning attachment for receptacles. A. C. Bundy, Brooklyn, N. Y.  
 763,304. Surgical or operating pad or cushion. C. W. Meinecke and D. Hogan, assignors to Meinecke & Co., New York city.  
 763,306. Foot pad for furniture. D. L. Miller, Louisville, Ky.  
 763,317. Hose coupling. L. R. Nelson, Boulder, Colo.  
 763,338. Hose carrying tongs. J. M. Baker, Providence, R. I.

*Trade Mark.*

- 42,832. Dress shields. The Omo Mfg. Co., Middletown, Conn. *Essential feature.*—The word CURVETTE. Used since Jan. 1, 1902.

## ISSUED JUNE 28, 1904.

- 763,475. Exercising machine. J. F. Frazee and H. V. Whitcomb, San Francisco.  
 763,489. Inflatable boot tree. H. G. Hoyos, Hanover, Germany.  
 763,517. Pen. H. W. Stone, Brooklyn, N. Y., assignor to A. A. Waterman, W. G. Frazer, and H. W. Geyer [comprising A. A. Waterman & Co., New York city.]  
 673,536. Tire for vehicle wheels. J. Alloatti, Paris, France.  
 763,539. Pneumatic tire covering. G. F. Brown, Hurstville, New South Wales.  
 763,550. Vulcanizing India-rubber boots or shoes. A. D. Field, Waterbury, Conn.  
 763,551. Hand stamp. W. A. Forde, New York city.  
 763,558. Rubber gasket making machine. F. E. Harthan, assignor to L. C. Taylor, trustee, both of Trenton, N. J.  
 763,594. Hose nozzle holder. A. L. Chubb, Oakland, Cal.  
 763,649. Boot or shoe heel. M. Winants, Liege, Belgium.  
 763,652. Hose coupling. J. A. Allen, Seattle, Wash.  
 763,683. Combined abdominal hernia pad. A. E. Magoris, Binghamton, N. Y.  
 863,707. Inflating pump. H. K. Austin, Reading, Mass.  
 763,837. Hose coupling. W. H. Bailey, Monongah, W. Va.  
 763,909. Rubber tire. A. S. Krotz, assignor of one half to P. A. Staley, both of Springfield, Ohio.  
 963,934. Overshoe holder. J. Stawartz, assignor of one-fourth to F. Gallant, both of Pittsburgh, Pa.

*Trade Marks.*

- 42,876. Waterproof textile fabrics. Hirsh Brothers, New Haven, Conn. *Essential feature.*—The words ANT and WET separated by the letter I, the letter I occupying the center of a white disk and above it the word ANT and below it the word WET on a black disk surrounding the white disk. Used since May, 1903.  
 42,916. India-rubber shoes and goloshes. Ostasiatische Handels-Gesellschaft, Hamburg, Germany. *Essential feature.*—The representation of an oval in the center of which the letters E. A. T. C. are arranged. Above and below are two arrows and circles having dots in their center; at the top of the oval is a fancy device and a diamond. Used since April 27, 1903.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

## GREAT BRITAIN AND IRELAND.

## PATENTS APPLIED FOR—1904.

[\* Denotes Applications from the United States.]

- 11,426. H. David, Manchester. Non slipping device for rubber tires. May 18.  
 11,496. F. T. Marwood, Pleasington. Non skidding motor tire. May 19.  
 11,516. F. Nusch, London. Guard for pneumatic tires. (L. Vandere-Simon, Belgium). May 19.  
 11,538. E. E. Bailey, London. Golf ball. May 19.  
 11,642. F. Sadler, London. Motor tire. May 20.  
 11,771. R. E. P. Craven, London. Resilient tired wheel. May 21.  
 11,795. J. Lines, Liverpool. Pneumatic tire. May 24.  
 11,799. L. Johnston, Alnwick. Shaving brush of hair and rubber. May 24.  
 11,858. T. C. Ladner and two others. London. Hose coupling. May 24.  
 \* 11,861. C. W. Maxon, London. Pneumatic tire. May 24.  
 11,918. C. J. Axten and W. May, London. Metal and rubber pad for boot soles and heels. May 25.

- 11,924. C. P. E. Schneider, London. Wheel rim for pneumatic tires. May 25.  
 11,968. E. B. Gibb, Glasgow. Pneumatic tire. May 26.  
 12,033. J. M. Burnett, Manchester. Device for putting on and removal of tire covers. May 27.  
 12,079. J. F. Mason, London. Revolving heel pad. May 27.  
 12,109. J. W. Langdon, London. Reservoir attachment for pens. May 27.  
 12,273. W. Richter, London. Process for the manufacture of articles of rubber. May 30.  
 12,290. F. C. Boyle, London. Rubber tipped ferrule. May 31.  
 12,301. N. B. Lawson, Glasgow. Waterproof suit. May 31.  
 12,320. H. Crane, Jr., London. Waterproof and dustproof protector for boots. May 31.  
 12,401. T. Jackson and A. Miles, Prestbury, Gloucester. Cycle tire. June 1.  
 12,442. F. H. Sterling, London. Anti puncture device for tires. June 1.  
 12,443. E. W. Warriner, London. Fountain pen. June 1.  
 12,511. P. H. Haddleton, London. Mold for golf balls. June 2.  
 12,523. A. J. Boulton, London. Expanding molds for making tire covers. June 2.  
 12,524. A. S. Morrison, London. Resilient tire and fastening device therefor. June 2.  
 12,534. M. McNally, London. Junction for the closed ends of tire tubes. June 2.  
 12,565. T. Woolfall, Rochdale. Non skidding device for motor tires. June 3.  
 12,566. W. H. Johnson, Leicester. Reversible heel for boots. June 3.  
 12,574. J. Corson, Bradford. Fastener for holding rubber tubes to flexible metallic tubing. June 3.  
 12,597. A. Wilson, Sydenham. Boot heel. June 3.  
 12,657. A. C. Williams, London. Detachable boot heel. June 4.  
 12,674. W. Cunningham, Glasgow. Golf ball. June 4.  
 12,683. H. H. S. Scott, London. Armored hose. June 4.  
 12,680. F. H. Richardson, London. Anti puncture device for motor tires. June 4.  
 12,716. C. Kopp and D. Hone, Birmingham. Puncture proof device for pneumatic tires. June 6.  
 12,779. W. H. C. Price, London. Method of attaching tires to rims. June 6.  
 12,789. A. Eisenmenger, London. Fountain pen. June 6.  
 12,812. J. Greenlees, Glasgow. Detachable boot heel. June 6.  
 12,843. J. Heys, Waterloo. Method of attaching tires to rims. June 7.  
 12,908. J. Pullman, London. Pneumatic tire. June 7.  
 12,912. T. Midgley, Liverpool. Pneumatic tire. June 7.  
 12,988. W. F. Williams, London. Elastic tire. June 8.  
 12,998. A. L. Shepard, London. Pneumatic tire. June 8.  
 12,999. F. G. McKim, London. Pneumatic tire. June 8.  
 13,006. A. Pereno and J. Coulon, London. Pneumatic tire. June 8.  
 13,030. H. Brooker, Waltham Cross, Middlesex. Band for pneumatic tires. June 9.  
 13,052. J. Bamber, Manchester. Horse shoe pad. June 9.  
 13,091. W. Strück, London. Means for fixing solid elastic tires to wheels. June 9.  
 13,118. J. P. Cochrane and J. Jackson, Glasgow. Machine for winding rubber cores for golf balls. June 10.  
 13,119. J. A. Olden, Liverpool. Pneumatic tire. June 10.  
 13,132. A. P. Russell, Coventry. Method of compressing air on motors for inflating tires. June 10.  
 13,198. A. W. Clayden, Exeter. Hose reel. June 11.  
 13,209. Elizabeth Reed, trading as The Leader Rubber Co., Manchester. Revolving pad for boots. June 11.  
 13,221. J. Partington, Keishley. Pneumatic tire. June 11.  
 13,242. M. A. Adams, London. Elastic tire. (H. Adler, Transvaal.) June 11.  
 13,295. C. Adler and F. Mousley, Birmingham. Pneumatic valve for playing balls. June 13.  
 13,298. M. G. Plane and G. Phillips, Colchester. Puncture proof tire cover. June 13.  
 13,303. J. W. Battey, Manchester. Heel pad for boots. June 13.  
 13,329. W. Buckley, London. Tire for vehicles. June 13.  
 13,348. J. Pyat, London. Nail extractor for pneumatic tires. June 13.

- 13,416. P. Heymann, London. Elastic bib to wear during hair cutting. June 14.  
 13,443. J. C. Steiner, London. Appliance for imparting intermittent compression to elastic bulbs of vaporizers. June 14.  
 13,493. F. Peace, Sheffield. Non puncturable tire cover. June 14.

## PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 1, 1904.]

- 2,399 (1903). Golf ball [solid gutta core, covered with thin layer of rubber, and encased in gutta]. C. T. Kingzett, Chislehurst.  
 \*2,477 (1903). Life preserver [comprising a series of inflatable chambers, fitted with an adjustable belt]. J. A. Elenius, Calumet, Michigan.  
 2,514 (1903). Pneumatic tire [protected from puncture by a strip of thin steel inside the cover]. J. L. Heward, Cardiff.  
 2,548 (1903). Life saving buoy [to be worn on the person]. H. Condren, Vancouver, British Columbia.  
 2,591 (1903). Waterproof aprons for exposed seats of tramcars. A. L. Brown, London.  
 \*2,603 (1903). Pneumatic tire [with self sealing portions]. H. J. Haddan, London. (J. W. Blodgett, Chicago, Illinois.)  
 \*2,605 (1903). Lacing hook guard for leggings, boots, and the like. W. Lanz, Chicago, Illinois.  
 2,634 (1903). Non slipping pneumatic tire. E. C. Pope-Sadler, London.  
 2,662 (1903). Inflatable boot tree. Graf Hans Hoyos, Hanover, Germany.  
 2,663 (1903). Puncture proof pneumatic tire. J. Hall, Ipswich.  
 2,676 (1903). Hose coupling. F. Elissing, Kreuzlingen, Switzerland, and A. Spiegel, Constance, Germany.  
 2,689 (1903). Blowing toy. H. Metzger, Paris, France.  
 2,756 (1903). Pneumatic tire. H. Brookes, Stirling.  
 2,760 (1903). Inflatable boot tree. G. Evans and J. Holmes, Northampton.  
 2,766 (1903). Elastic exercising apparatus. T. Belvoir, New Southgate.  
 2,816 (1903). Machine for making rubber surgical bandages. C. Blair, Preston.  
 2,824 (1903). Rubber strips for vehicle windows. C. McKay and A. J. Stone, Cardiff.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 8, 1904.]

- 2,893 (1903). Waterproof coat for motor car drivers. J. E. Seaman and A. Jamieson Bradford.  
 2,899 (1903). Pneumatic tire [two tires side by side]. P. A. and D. A. Martin, Birmingham.  
 2,939 (1903). Apparatus for vulcanizing rubber strips for tires, belting, and the like. Christian H. Gray, Silvertown.  
 2,969 (1903). Artificial hands. A. Daniels, Waterloo.  
 3,071 (1903). Dancing toy. R. Uhrig, Altenessen, Germany.  
 3,079 (1903). Hoof pad. R. H. and A. H. Coppin, Addington.  
 3,157 (1903). Elastic exercising apparatus. F. W. Croucher, Fleet, Hampshire.  
 3,227 (1903). Device for cleaning knives, kitchen utensils, and the like. E. Roberts, London.  
 3,230 (1903). Golf ball. J. H. Roger, Glasgow.  
 3,455 (1903). Non slipping pneumatic tire. W. M. Edwards, London.  
 3,398 (1903). Pneumatic tire and rim therefor. C. Challiner, Manchester.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 15, 1904.]

- 3,485 (1903). Substitute for rubber or leather. W. F. Reid (the inventor of "Velvrl"), Addlestone.  
 3,557 (1903). Ball of zylonite for golf or croquet. British Zylonite Co., Chingford, and S. E. Bain, East Bergholt, Suffolk.  
 3,560 (1903). Detachable boot heel. A. and H. A. Woodier, Runcorn, Cheshire.  
 3,616 (1903). Boot heel. W. R. Watts, Hornsey.  
 3,694 (1903). Revolving heel pad. A. E. Bigg, Manchester.  
 \*3,781 (1903). Syringe. E. B. Windler, St. Louis, Missouri.  
 3,922 (1903). Rubber tube for penholders, to give a firm gripping surface and prevent writer's cramp. C. Baker, Southampton.  
 3,923 (1903). Truss. T. P. E. Trotry-Girardiere, London. (Communicated from France.)  
 \*3,948 (1903). Elastic tire [made of a coiled strip of knitted fabric impregnated with rubber and vulcanized]. W. Esty, Laconia, New Hampshire.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 22, 1904.]

- 3,995 (1903). Carriage step [with non slipping tread]. H. P. L. Triscott, Colchester.  
 4,044 (1903). Pneumatic tire [with non slipping cover]. S. Butler, Westbury-on-Trym.  
 4,135 (1903). Pneumatic tire [with metal protected plates within the cover]. M. Purser, Carlow, Ireland.  
 4,182 (1903). Mold for golf balls. K. Gray, Chelsea.  
 \*4,183 (1903). Golf ball [with rubber core covered with silk or other textile and enclosed in a Gutta-percha shell]. F. W. Smith, Bridgeport, Connecticut.  
 \*4,314 (1903). Toy animal [inflatable]. G. T. Hyde, London. (E. S. Savage, New York city).  
 4,321 (1903). Means of inflating tires from the operation of a motor car. E. Girard and M. Ripert, Marseilles, France.  
 \*4,351 (1903). Hose coupling [for railway cars]. E. E. Gold, New York.  
 \*4,352 (1903). Solid rubber tire. R. S. Graham and W. S. Perkins, New York.  
 4,398 (1903). Hockey stick [with India-rubber or Gutta-percha driving face]. W. G. Grenville, Birmingham.  
 4,479 (1903). Pneumatic tire. J. H. W. Fitzgerald, London.  
 4,511 (1904). Stuffing box packing. J. A. Fisher, London.  
 4,591 (1903). Golf ball [formed by winding a rubber band under tension around a globular air chamber of glass and enclosing the same in a Gutta-percha shell]. M. A. Greenberg, Cheetham, and I. Cowen, Manchester.  
 4,695 (1903). Pneumatic tire. E. A. Seddon, Brooklands, Cheshire.

## GERMAN EMPIRE.

## PATENTS GRANTED.

- 152,808 (Class 47/). Binding twine, the strands of which are covered with rubber solution. W. Reinhold, Berlin. May 26.

## DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].

- 224,352 (Class 33a). Cane or umbrella ferrule with rubber attachment. Frank Schroeder, Breslau. May 26.  
 224,807 (Cl. 12d). Filtering plate of porcelain provided with a rubber ring. Frau Marquart, Beuel a/Rh. June 1.  
 224,978 (Cl. 15b). Rubber stamp. A. Paetz, Hamburg. June 1.  
 225,042 (Cl. 47g). Pump valve. Vereinigte Gummiwaaren-Fabriken Harburg-Wien, Harburg a/d E. June 1.  
 225,043 (Cl. 47g). Pump valve. Same.  
 225,171 (Cl. 63e). Tire tread with protective band of steel. L. Rieber and E. Schlüter, Magdeburg. June 1.  
 225,230 (Cl. 63e). Armored rubber tire. M. Kroff, Hanau. June 1.  
 226,116 (Cl. 30e). Pneumatic tire with protecting band. Bremer-Gummiwerke, Bremen. June 15.  
 226,052 (Cl. 65a). Packed rubber swimming belt. G. Künzler and A. Künzler, Munich. June 15.  
 226,033 (Cl. 63e). Hollow rubber tire having V-shaped profile, but not filled with air. W. Maybach, Cannstadt. June 15.

## THE FRENCH REPUBLIC.

## PATENTS ISSUED (WITH DATE OF APPLICATION).

- 339,362 (Jan. 6). J. S. Tait. Horseshoe pad.  
 339,366 (Jan. 6, 1904). R. A. Kent. Tire.  
 339,452 (Jan. 9). Société Anonyme des Pneus Cuir Samson. Felly, designed for a removable protector for pneumatic tires.  
 339,464 (Jan. 9). E. Lapisse. Protecting band for pneumatic tires.  
 339,474 (Jan. 9). L. P. Stier. Device for attaching pneumatic tires to wheels.  
 339,567 (Jan. 18). G. R. Fermer and F. W. Trash. Pneumatic tire.  
 339,597 (Jan. 14). P. T. Somerville-Large. Pneumatic tire protector.  
 339,614 (Jan. 20). J. Michel. Rubber joint for tubing.  
 339,632 (Jan. 15). J. Clerget. Pneumatic tire.  
 339,635 (Jan. 15). A. L. Bertincourt. Anti slipping device for tires.  
 339,639 (Jan. 15). Société G. Chapman et fils. Manufacture of matting or other objects of rubber, in colors.  
 339,667 (Jan. 18). C. W. Zaring. Anti slipping device for tires.  
 339,690 (Jan. 21). T. Desgrey. Pneumatic tire.  
 339,866 (Jan. 25). A. Chambolle. Safety pneumatic tire.

[NOTE.—Printed copies of specifications of French patents may be ordered from R. Bobet, consulting engineer, 16, avenue de Villiers, Paris, at 50 cents each, post-paid.]

## NEW GOODS AND SPECIALTIES IN RUBBER.

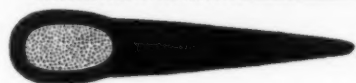
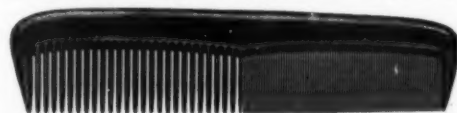
## HOLLOW BACKED HARD RUBBER COMBS.

**A**S a rule, novelties in hard rubber combs are confined to a little difference in the shape, or in the finish of the back, or the stamping. But since the first rubber comb was made there has been, until now, scarcely any change in the fundamental principle of making these combs. The new comb for which patents have been issued to Dr. Heinrich Traun, of Hamburg, does, however, embody a distinctive novel feature in being made with a hollow back. The advan-



actual thickness  $\frac{9}{16}$ "  
width  $2\frac{1}{4}$ "

tages claimed for this construction are many. For instance, the comb is stronger. A solid comb will sometimes snap when dropped on the floor, especially in the winter, when "it catches cold," lying on the marble slab of the washstand or on the window sill where the rubber has a chance to freeze. When it drops in this state, it almost invariably ends the life of the solid comb. Even if not frozen, should a heavy comb drop on the end tooth, the fall will break the tooth, and perhaps the neighboring teeth, through its own weight. The hollow comb has not enough weight to it to break the end tooth through such an accident. The principal benefit, though, is due to the fact that these hollow combs give the hand a very convenient grip on the back; they feel very comfortable in the hand, and are not heavy enough to tire the arm. It is not always under-



actual thickness  $2\frac{5}{8}$ "  
width  $\frac{7}{16}$ "

stood by men that dressing the hair is real work for those endowed with a luxurious growth, but such is the fact. The use of a thin comb sometimes cramps the hand; the thick but at the same time light combs made in the new way, make the work of dressing the hair infinitely easier and more pleasant. For delicate hands this comb is a positive boon. The new comb will be known as the "Revelation" comb and will be stamped with this name, as well as with the trademark of the Harburg Rubber Co., showing a man sawing wood. The patentee is the head of the firm of Dr. Heinrich Traun & Sons, formerly the Harburg Rubber Co., of Hamburg and Harburg, Germany, the largest manufacturers of hard rubber goods. These goods are sold by Schrader & Ehlers, United States agents, No. 335 Broadway, New York.

## "ELLIOTT GET THERE" GOLF BALL.

The construction of the ball illustrated herewith consists in forming a body of textile material, with or without a core, and enclosing it within a shell of Gutta-percha. The textile material used may be stockinet, or such like woven fabric, or loosely

twisted woolen yarn. The yarn, or stockinet in tapes, before use, is immersed in India-rubber solution, to give additional resiliency to the ball. The body of the ball may be formed by winding the textile material upon itself, or it may be wound upon a wooden or other core. The tape or yarn is stretched, in winding, to the fullest possible extent. The Gutta-percha shell is applied in the usual manner. The object of the invention, as stated in

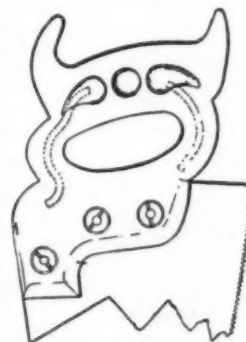


the specification of United States patent No. 731,026, issued to Charles B. Elliott, "among other things, is to provide golf and other playing balls of good quality at a comparatively small cost," and it is understood that the new ball already has met a very encouraging sale. [Elliott Manufacturing Co., Menlo Park, New Jersey.]

## A RUBBER SAW HANDLE.

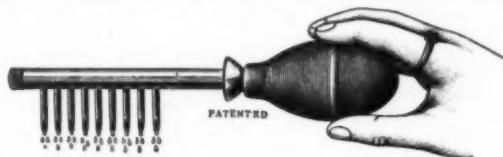
AMONG the newest ideas for the purpose of increasing the comfort of the workingman is a saw handle made of rubber.

The advantage of such a handle is that, being elastic, it prevents vibration and jarring of the hand of the operator, and also that, as it is non-breakable, it may be detached from one blade and put on another, and is, therefore, practically indestructible. In shape and appearance, with the exception of the color, the handle is the same as the wooden one now in common use. In its manufacture the handle is made by pressing the soft rubber in a suitable mold; and, at the time of its formation, two small pieces of heavy wire are suspended within the mold in such a position that when the handle is complete the wire acts as a reinforcement at the weak parts above and below the finger opening. These pieces are bent so as to conform to the shape of the handle. The blade is inserted in the handle in the usual manner: that is, in a slot and hung attached by screws.



## "SCALP SPRAYER" FOUNTAIN COMB.

THIS is a newly patented article, intended for the cure of dandruff, falling hair, and scalp diseases, through the conven-



ient application of the remedial agents to the scalp direct. The illustration, based upon the patent drawings, is designed not to show a complete comb, but to indicate the principle of construction. The comb has a tubular back, provided with discharge orifices leading to the teeth; a collapsible bulb connected with the tubular back; a handle provided with a guard



to protect the bulb against accidental compression; and a drip cup located between the handle and the comb to protect the former against any leakage of the fluid used. This device may also be used by ladies for bleaching, dyeing, and dressing the hair. Its use avoids the waste of fluid preparations, and does not soil the hands. United States patent No. 753 968, issued March 8, 1904, to Arthur John Farmer. [Western Comb Works, Detroit, Michigan.]

#### A PEN WITH A SOFT RUBBER TIP.

THOSE who have given the matter any thought are doubtless aware that the many Japanese who are able to write do so with a reed pen, and in characters that do not lend themselves to the metal pen used in the Western world. Their pen, however, wears out easily and is so far from being satisfactory that the new rubber pointed pen (the tip being of soft rubber and of Japanese make), has become instantly popular. A short length of hollow reed fits over and protects the rubber tip, which, by the way, is as neat a bit of mold work as any rubber manufacturer need desire. It is not only grooved so that the ink which clings to the outside of the tip will lead down to the fine point, but at the bottom of each groove is a slit leading into the hollow interior so that a sort of fountain supply is also obtained. The various excellencies of the pen as well as the name of the manufacturer appear in the characters shown on the penstock. Such a pen is illustrated here.

#### A NEW FAUCET CONNECTION.

THIS invention is intended for use in connection with the "Knickerbocker" rubber fountain bath brush, described in this department of THE INDIA RUBBER WORLD, August 1, 1903 [page 381], said brush comprising numerous rubber ducts, through the tip of each of which a tiny stream of water flows when the brush is connected to a faucet, say in a bathroom. The new faucet connection, for which United States patent No. 761,505 has been issued to Burton D. Knickerbocker, is illustrated herewith. The surface of this device, where it engages the faucet, being rounded, there is no liability of the rubber starting to tear at the point of contact. Two metal rings are used to stiffen the rim of the connection, and are so firmly held together that the beaded rubber edge extending around the outside of the rim cannot pull out of place. These features add to the durability of the faucet connection, besides which it is easy of attachment to any style of faucet. In cases where bathrooms are not fitted with combination hot and cold water faucets, the new device is supplied as a double faucet connection. [Knickerbocker Manufacturing Co., No. 40 Dearborn street, Chicago.]



JAPANESE PEN.

#### RUBBER LEGGING.

THE very handsome rubber legging shown in the illustration is made from a photograph. The legging referred to is made of rubber coated duck, and fastened with hooks and laces; the same style is also made to be fastened with spring. This legging is made by The Berlin Rubber Manufacturing Co., Limited (Berlin, Ontario), who have the exclusive rights for its manufacture in Canada.



#### RUBBER COVERED BELT CONVEYOR PULLEYS.

IN the belt conveyor system of the Webster Manufacturing Co. (Chicago), for handling grain, minerals, and raw materials and products of a great variety of mills, in addition to the conveyor belts, another use of rubber is involved. That is, the head pulleys in many cases are covered with 4 ply rubber belt, securely attached to the face of the pulley with large flat head bolts sunk in flush with the outer surface of the rubber covering. The ends of the covering are serrated, the serrations interlocking one another, thus presenting a smooth, continuous surface.

#### BRIEF NOTES OF NOVELTIES.

IN France the motor cyclists have received so many broken heads that resort has been had to a pneumatic helmet to soften the blow when the rider alights on the wrong end. It consists of a hollow leather cap which is inflated with air just like a bicycle tire.

=Pretty sunbonnets, so called, of silk rubber, are made this season for ladies' wear at the sea beaches. They can be worn as large hats with a wide rim and deep frill in the edge. They come in red, in blue, and in black, and cost 75 cents each in the New York shops.

=A new straw hat protector for rainy weather has made its appearance. It's a fine rubber cover which fits tightly over the crown and rim of the hat. It is guaranteed not to let the rain through. In fine weather it can be rolled up and carried in the inside pocket.

=A sebackroscope is one of the impolite toys of the day. It is made of rubber, and to fit into the eye, as the jeweler's magnifying glass does. When it is in place the user can see not only what is going on in front of him, but what the people back of him are doing—at least, that is what is claimed for the small glass. They do not cost much, and any one can get one if the detective force does not learn of them and buy out the stock.

=A New York druggist has imported from Germany an aid to sleep, which is said to be common enough there, though it was never before known here, where it must be needed much more than in that quieter country. The appliance consists of two rubber objects not unlike small mushrooms, which fit into the ears and keep out all sound. Persons accustomed to using them are able to sleep in the noisiest quarters, as sound is completely deadened. Others, who do not find it necessary to use them all night, put them into their ears in the morning, when the city is awake and moving. That is the time of the day when such a contrivance would be most useful to the average New Yorker.

## BRITISH RUBBER MACHINERY.

**A**MONG the British manufacturers of machinery adapted especially for the India-rubber industry, a prominent position is held by Messrs. David Bridge & Co., of the Castleton Ironworks, Castleton, Manchester, successors to the late John Mills, Oldham. The list of products of this long established business is extensive and varied, and selections from their catalogue cannot fail to prove of interest to the trade in America, owing to the differences in practice prevailing on the two sides of the Atlantic. It is natural that, in view of the great development of the waterproofing trade in Great Britain, an important section of the Messrs. Bridge's catalogue should be devoted to appliances in this branch of the rubber industry, for which reason our first selections from the list relate to the waterproof manufacture.

## SPECIAL POLISHING, CURING, AND PASTING MACHINE.

THE first of the machines illustrated herewith (Figure 1) is really a combination of three machines in one. It consists mainly of two independent frames fixed a little distance apart on the floor, and a wooden drum fixed to the ceiling. When the machine is in use for *polishing*, the cloth, which is wrapped on a wooden roller on removable centers fitted with brake arrangement on the front of the left hand frame, is passed under a wooden carrier roller immediately behind the same and over two iron carrier rollers fixed on the top, between which a doc-

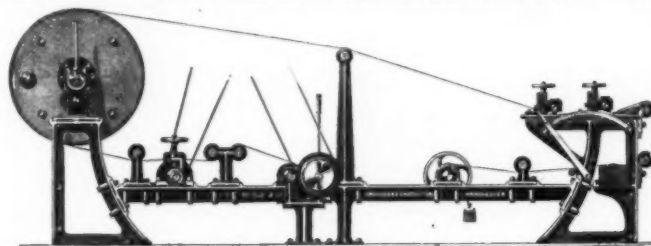


FIG. 1.—POLISHING, CURING, AND PASTING MACHINE.

tor with rubber face depresses the cloth, and in front of which any polishing material may be placed. This doctor is shown raised in the illustration, but in use for polishing would be in the position indicated by the dotted line. The cloth then passes over the large wooden drum or roller fixed to the ceiling, and down to the back of the steam drying cylinder on the right hand frame, which it tightly grips for about half the circumference, then passes over a guide pulley on the tall standard, and is wrapped on a wooden batching roller driven by frictional contact with a larger roller fixed in front of the right hand frame. This roller is driven by a belt through a cone pulley and a pair of strong wheels.

When the machine is used for *curing*, the cloth roller is fixed in the brackets behind the left hand frame, and the cloth is passed under the guide rolls fixed on the bottom of the frame, and over the liquor box between them, in which is a slate roller made to revolve by friction of the cloth. On the side of this box a lever arrangement is fixed by which the cloth can instantly be lifted out of range of the liquor so as to avoid damaging the wrapper cloth. The cloth then passes over the iron carrier roller on the top of the frame and direct on to the drying cylinder on the right hand frame, from which it is wound on by the same arrangement as used for polishing cloth.

When the machine is used for *pasting* the cloth, the roller is carried by the same brackets at the back of the left hand frame, and is wound by hand on to the roller in front of the same frame over a steam heated pasting chest fixed at the back on

the top. When all the cloth is wound on to this front roller, it is ready fixed for polishing, or the roller can be brought to the back ready for curing.

## COLD CURE AND ELECTRIC FINISHING MACHINE.

THE coated cloth to be treated by this machine (Figure 2) is coiled on a roller fitted on a loose center a little to the right of the tall center standard, from which it is conducted under carrier rollers, over a slate liquor roller revolving in a box, provided with a quick raising arrangement of levers to raise

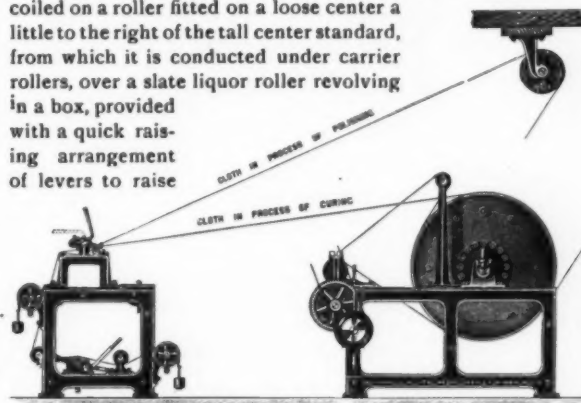


FIG. 2.—COLD CURE AND ELECTRIC FINISHING MACHINE.

the naked wrapper out of contact with the roller. The cloth then passes over the carrier roller at the back top corner, and down an incline, and under a steel bladed doctor in front of which the farina is evenly laid by the attendant. The cloth next proceeds under a second doctor of wood with smooth edge, and away over the carrier roller on the tall standards, round the steam drying cylinder at the left, and, guided by a carrier or guide roller, over a quickly revolving adjustable brush, and thence, guided by two wood guide rollers on to the winding-on roller, a little to the left of the tall standard, driven by cone speed belt pulley and spur gearing. Sometimes the brush is enclosed in a box to prevent the waste of farina. The machine is provided with strong claw clutch and striking gear arrangement to stop and start instantly.

When this machine is used for curing only, the cloth does not pass under the two doctors, nor does it come in contact with the brush, but passes over the doctors on its way to the drying cylinder, and direct from the cylinder to the winding-on roller.

## THE CHALKING MACHINE.

THIS is an almost necessary adjunct for all India-rubber works, and particularly so where such classes of goods are manufactured on the spreader or calender as require afterwards to be stripped from the cloth upon which the material is

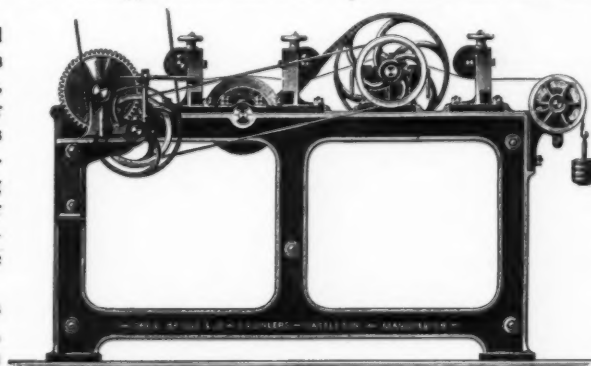
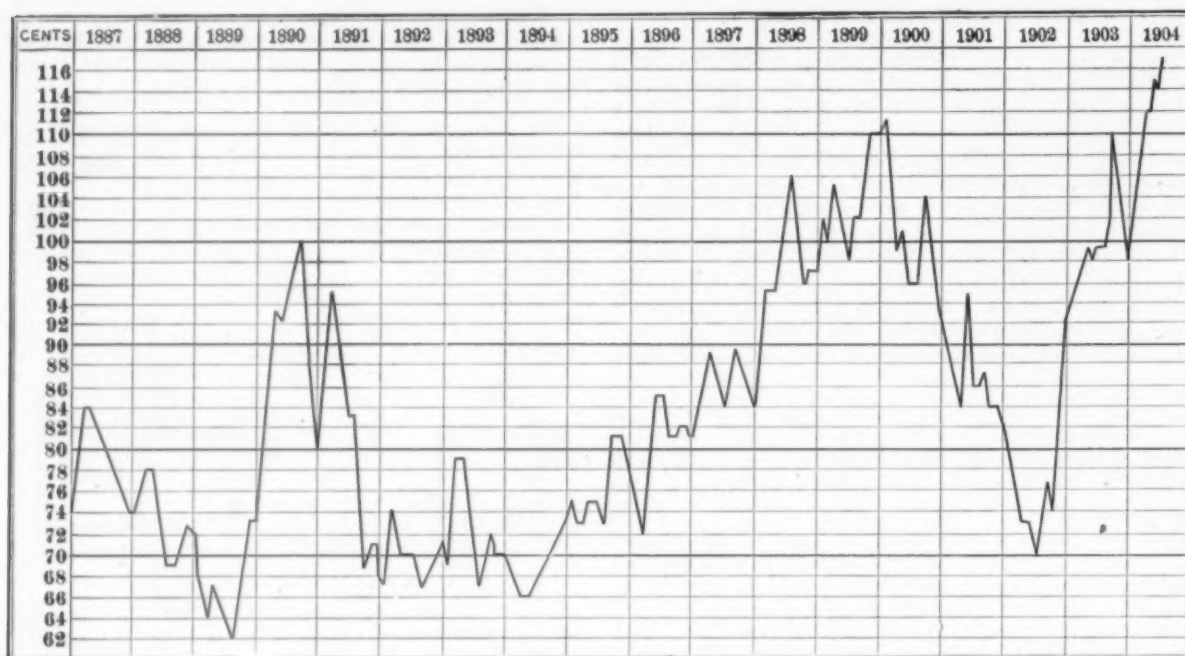


FIG. 3.—THE CHALKING MACHINE.



PARA RUBBER PRICES FOR EIGHTEEN YEARS (BASED ON HIGHEST NEW YORK PRICE EACH MONTH).

spread. The machine illustrated in Figure 3 is a compact appliance, specially manufactured by Messrs. Bridge & Co., and consists of a substantial framework of cast iron, at one end of which the cloth or other material which it is desired to chalk is wrapped on a roller fixed in easily removable centers provided with a brake arrangement. At the other end, the cloth is wrapped upon another roller fixed upon similar centers, but driven by belt power through a pair of spur wheels. The top of the frame carries a chalk box, fitted with an agitator in which a roller revolves driven by the friction of the cloth; also a quickly revolving brush. The full width of the machine is fixed upon the top of the frame, the bristles of which come in contact with the material, thus spreading the chalk equally, previous to its being wound on to the power driven roller. Carrier or training rolls are also fixed upon the top of the machine, to give the material the necessary tension over the chalking and brushing rollers. The brush is usually enclosed in a box provided with a slit through which the material passes.

#### LITTLE DANGER OF A RUBBER FAMINE.

FROM THE "ELECTRICAL REVIEW" (NEW YORK).

A SHORT time ago we made note of a report from a United States consul in Mexico, relating to rubber culture in that country, which took a discouraging view of the matter. This consul could see no success in prospect for the many rubber plantations which have been started there, and on which large sums of money have been expended. He thought, however, that there was some hope that new rubber fields might be discovered, and that in this way the increasing demand for this product would be met.

The following week another report was noted, this time from the United States consul at Pará, Brazil. This report took the opposite view, and gave some details of several rubber plantations in that country which are already yielding *latex*, and

which promise to become important, not only as a source of rubber, but as demonstrating the success with which these trees may be planted and cultivated.

As is well known, rubber is the most important insulator we have yet discovered for high tension conductors and for inside wiring. The demand for this material is increasing enormously, and it is therefore important to know which of the two reports alluded to is to be trusted. The subject is considered in a sharp editorial appearing in the current issue of THE INDIA RUBBER WORLD, which criticises the report of our consul in Mexico, takes him to task for not ascertaining the correct facts, and which states that there are now plantations in Mexico well advanced, with every prospect that they will be successful as sources of rubber.

This issue of our contemporary also contains a letter from its Editor, who is at this time making a trip for the purpose of inspecting the rubber producing countries. In this details are given of a visit to several plantations in Ceylon, where there are large trees already giving good yields. There seems to be no difficulty in raising the trees from seeds, and the methods of tapping the tree and of curing the *latex* are receiving study. The letter takes a very encouraging view of the situation, as not only have the trees already planted flourished, but there are large sections of country which have not been planted, but which are suitable for rubber culture. It is exceedingly gratifying to learn through such a reliable authority that there is little danger of a rubber famine in the near future.

A PRESS despatch from Topeka, Kansas, dated July 23, says: "Farmers in the wheat belt are harvesting their wheat in rubber boots. Senator McMillan of Ottawa county stated to-day that he has within the past week seen hundreds of men wading in water and mud cutting wheat with cradles. The senator says merchants in Ottawa county were unable to supply the demand for rubber and hip boots."





EXHIBIT OF THE B. F. GOODRICH CO. (AKRON RUBBER WORKS) AT THE ST. LOUIS WORLD'S FAIR.

THE exhibit made by The B. F. Goodrich Co., of the Akron Rubber Works, at the World's Fair of 1904, at St. Louis, covering selections from the products of all departments of their extensive factory, is probably the most comprehensive exhibit of rubber goods ever made by any manufacturer. The company have been highly complimented on the exhibit as a whole, which has been spoken of as the most attractive display in the Palace of Manufactures. The setting of the exhibit is attractive, while the specimen products which it embraces are grouped with a pleasing effect of which but small idea can be given in a picture on the small scale made necessary by the restricted size of our pages. The articles shown embrace Mechanical Rubber Goods, such as hose, belting, packing, mold work, etc.; Tires, for automobiles, carriages, and bicycles; Druggists', Surgeons, and Stationers' sundries; and Haskell golf balls.

An occasional correspondent of THE INDIA RUBBER WORLD at St. Louis writes:

"After an inspection of the exhibit of The B. F. Goodrich Co. (Akron, Ohio) in the Manufacturers' building, the visitor is forcibly impressed with the thought that the daily walks of mankind would be changed materially if the supply of rubber were cut off. The variety of goods shown causes him to wonder if there is anything used that the manufacturers cannot make, or help to make, in some form or other, out of this wonderful material. He may start at one part of the display, and have every turn of the average day's doings suggested by some article made of rubber, from the time he arises in the morning until he retires, and this is true if he be a business man, a so-

ciety devotee, or a sport. The display of the Goodrich company in point of floor space, as well as in the variety of articles shown, is one of the largest at the Exposition, covering an entire block in the northern section of the building devoted to manufactures.

"To the trade it furnishes a triple attraction. First there is Frank R. Tate, who has charge and who can tell you 'what's what' in the rubber world 'right off the reel'; second, the colors of the booth have been arranged to blend with the general plan of the architecture, giving the whole a pleasing appearance; and third, there are the Goodrich pictures—'Katie' and all the rest of the girls whose faces have become familiar to customers—looking down from the walls of the reception room, to extend their silent welcome.

"Probably the most attractive single item shown is the rubber matting which covers all the floors. It is done in imitation of gray marble tiling, the blocks laid between black strips two inches wide, and the whole skirted with a dark border. The reception room floor is covered with the same material colored green. In the surgical department, an important part of the display, is shown an excellent line of water jackets for use on different joints of the limbs. The goods for the bath and for improvement of the complexion are given considerable space. Prominence is also given to the sporting goods department.

"The company show a great variety of rubber tires, the largest of which is a solid wire tire 36×7 inches. Some of the tires are mounted on wheels exhibited by vehicle manufacturers, and others are on silver plated rims belonging to the Goodrich company."

## RUBBER PLANTING INTERESTS.

## SULO-SUCHIL PLANTATION CO.

[Plantations at Sulo-Suchil, canton of Manatitlan, state of Vera Cruz, Mexico. Office: 835 The Spitzer, Toledo, Ohio.]

THE annual inspection was made by John A. Giedeman, of Toledo, Ohio, inspector for the shareholders, whose report, dated March 25, gave the statistics of planting on the company's three plantations already printed in THE INDIA RUBBER WORLD of December 1, 1903 [page 85]. The report gave a good account generally of the condition of the growing crops and details of improvements made on the estate. Regarding rubber he wrote: "The best rubber I saw was growing on land where the forest growth had been removed, on which the trees approximated 30 feet in height with a diameter of 10 to 12 inches, planted in rows 9 x 9. There is probably 100,000 of such trees. I slashed many of them and they bled freely. I cannot say that rubber growing under shade with coffee impressed me so well as to size, age considered. Even so, I regard this class of rubber as an asset of great value, and am satisfied it will mature under slight comparative delay, and that the company can rely on same in due time as a source of splendid revenue." The company have since issued a book of half tone views, from excellent photographs, to illustrate the appearance of different features of their property, and as a supplement to Mr. Giedeman's report.

## RUBBER TREE PLANTING AT PARA.

THE United States consul at Pará, Brazil, Mr. Louis H. Aymé, reports having visited a small plantation of *Hevea Brasiliensis* in a suburb of that city, formed and owned by a wealthy gentleman named Martins. Several hundred of the planted trees are now considered ready for yielding latex, and the consul saw several trees tapped, the method of extraction, smoking, etc., being the same as practiced in the forest *estradas*. There are thousands of other rubber plants on the same property, ranging in age down to two years, and the owner thinks that they will form a valuable legacy to his family. The age of the productive trees is not given, but the report implies that 10 to 14 years is the age to begin tapping. Nor is the rate of yield given. The site of the plantation is "rather high, sandy ground, sloping gently to the northeast to low ground, where a fine spring broke from the earth."

## PROFITS OF THE SOCIÉTÉ A B I R.

THE Société A B I R (Anglo-Belgian India-Rubber and Exploration Co.), an important *concessionaire* company in the Congo rubber trade, was mentioned in the last INDIA RUBBER WORLD as intending the distribution on July 1 of a dividend of 500 francs per share. It now appears that this was in addition to a dividend of 700 francs per share already paid out of the profits of 1903, or a total of 1200 francs per share, on 2000 shares. The net profits were about 2,890,000 francs [= \$557,770], on a capital of 1,000,000 francs. The company sold during the year 700 tons of Caoutchouc, and at the close of the year had on hand 348,950 kilograms of Caoutchouc and 5990 of ivory. It is reported that the Société A B I R will subscribe two-thirds of the proposed capital of 600,000 florins [= \$241,200] of a Netherlands company formed to establish a plantation of rubber in the Straits Settlements, for which purpose an amount equal to 180,000 florins has been held in reserve from the profits of A B I R for the past business year. It was rumored, recently, that the Congo Free State, after taking over the exploitation of the concession of the Société Anversoise pour le Commerce au Congo, intended to also take in hand that of the A B I R, but, as yet, this rumor has not been confirmed. Nevertheless, all this points to the in-

tention of the Congo state to control more fully the affairs of the *concessionaire* companies.

## RUBBER IN ONE MALAY STATE.

THE annual report of the British official resident in Negri Sembilan, one of the Federated Malay States, for the year 1903, notes an increased interest there in the cultivation of Pará rubber. Exports of cultivated rubber for the year amounted to 1461 piculs [= 1948 pounds], against only 1 picul [= 133½ pounds] in 1902. The value stated for the 1903 exports is \$3714. silver, which, at recent exchange rates, would be equal to about \$1736, or 88½ cents per pound. A considerably larger output is expected for 1904. During the past year about 20,000 acres of government lands were applied for, to be planted to rubber.—Last year the *Tropical Agriculturist* estimated the acreage of planted rubber in Negri Sembilan at 1500, and for the whole of the Straits Settlements at 16,600.—During the year the Seremban Estate Rubber Co., Limited, was formed, to acquire certain rubber planting properties at a cost of £31,666 [= \$154,103], for one half of which the vendors accepted shares in the new company.

## NEW RUBBER PLANTING COMPANIES.

THE Amapa Rubber Plantation Co. was incorporated May 11, 1904, under Maine laws, with \$2,000,000 capital authorized, to be in a position to engage in rubber culture in Mexico, under certain circumstances. The directors are: I. L. Fairbanks (president and treasurer), L. A. Burleigh, and J. Berry, Augusta, Maine; Rufus T. Goodell and Dean L. Robinson, New York.

=Federal Plantation Co., incorporated September 9, 1903, under Maine laws; authorized capital, \$2,000,000. Directors: William Vernon Backus (president), William Backus, Sr., A. E. Hyre, Irma Harms, F. H. Coleman—all of Cleveland, Ohio. Organized to develop a rubber plantation adjoining those of the Mexican Investment and Manufacturing Co. and The Imperial Plantation Co., both of Cleveland, both mentioned more fully hitherto in THE INDIA RUBBER WORLD, and all owned by the same interests.

=Boston Rubber Plantation Co., incorporated July 8, 1904, under Maine laws; capital, \$300,000. Incorporators: Horace Mitchell (president and clerk), Kittery, Maine; A. M. Meloon (treasurer), Newcastle, New Hampshire; M. G. Mitchell, Kittery; Horace E. Bragdon, East Boston, Massachusetts; Elbert K. Sherman, Newtonville, Mass.; Thomas M. Durell, Somerville, Mass.

=El Guapotal Rubber Plantation Co., incorporated June 29, 1904, under Wisconsin laws. Incorporators: Henry P. Hohel, Henry C. Schaper and Henry Hannan; office at Madison, Wisconsin.

## RUBBER PLANTING COMPANY PUBLICATIONS.

THE Tehuantepec Rubber Culture Co., New York=Plantation Rubio Illustrated. [A series of photographic views, to accompany the report by Grosvenor Calkins, official inspector, reviewed in THE INDIA RUBBER WORLD, May 1, 1904—page 271]. 44 pages.

The Consolidated Ubero Plantations Co., Boston.=*The Tropical News*, June, 1904. [Containing Report of the Inspector, Dr. Charles T. Baylis, of Brooklyn, New York.] 16 pages.

Colliseo Sugar Plantation Co., Milwaukee, Wisconsin.=*Colliseo Journal*, No. 1—June, 1904.

Batavia Co., Inc., Milwaukee, Wisconsin.=(a) Annual Report No. 1. Batavia Plantation. By Ben L. Edgerton, Inspector. 31 pages. (b) Annual Bulletin, No. 1—July 1, 1904. 12 pages.

Mexican Rubber Co. of Providence (Rhode Island).=(a) Life as it is in Old Mexico. Facts Regarding Cultivated Rubber. 64 pages. (b) Report of William B. Wofford, *Tropical Agriculturist*. 5 leaves.

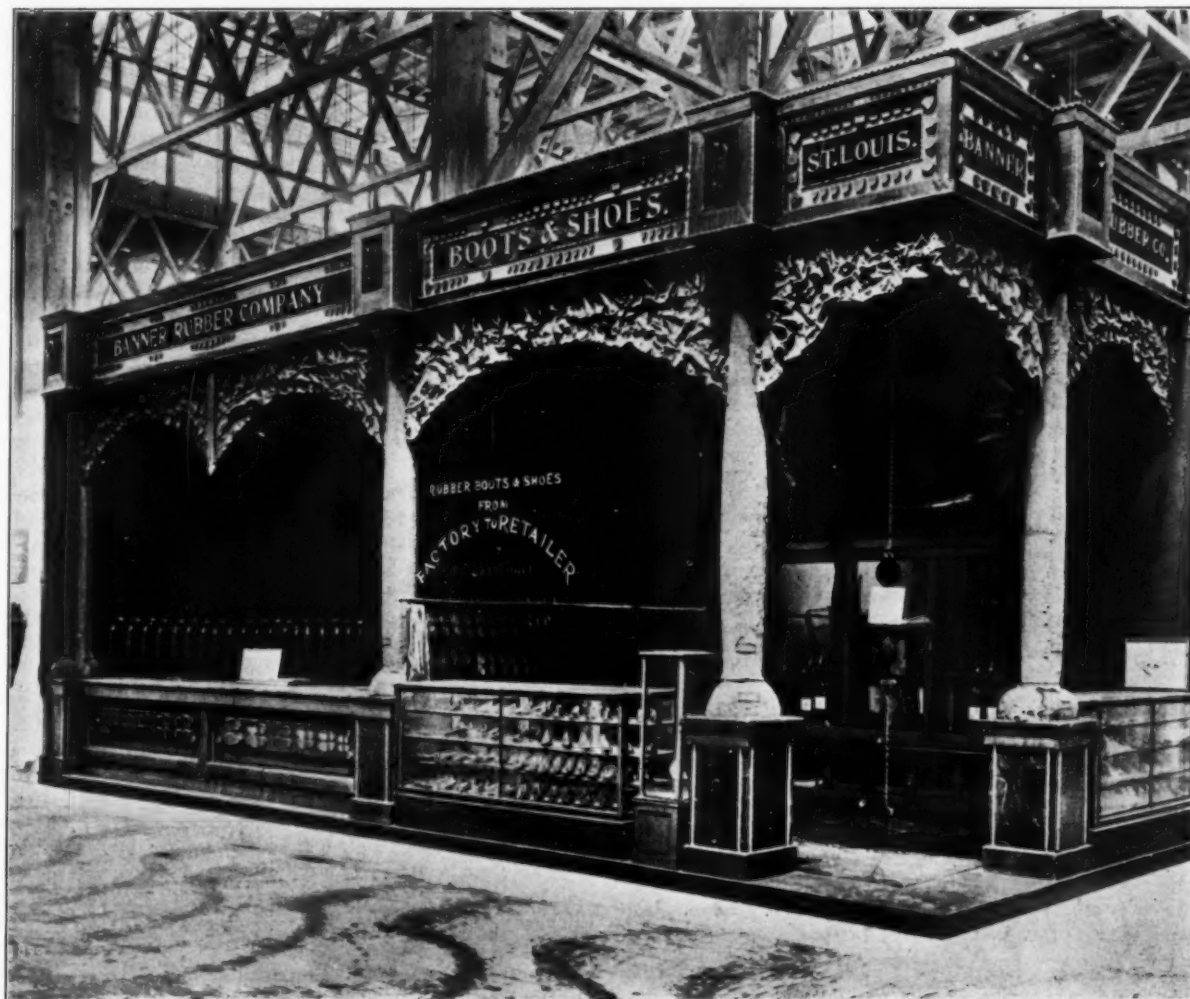


EXHIBIT OF THE BANNER RUBBER CO., OF ST. LOUIS, AT THE WORLD'S FAIR.

THE Banner Rubber Co., of St. Louis, are showing the world how their products are made, by working a full "ticket" on boots, arctics, and overshoes, in their own factory, in the Palace of Manufactures at the World's Fair. This company has a floor space  $12 \times 32$  feet, in Block 22 A, in the southern section of the building. The booth is  $12 \times 35$  feet, and 15 feet high. It was the original intention of the company to operate a fully equipped rubber factory on the fair grounds, but lack of space for the heavy machinery required in preparation of the rubber, and for the vulcanizing outfit, made this impracticable. The work done in this booth, therefore, begins with the receipt of the prepared rubber from the company's factory outside of the fair grounds, after which the work of making footwear proceeds until the products are ready for vulcanizing, when they are carted to the factory.

There are enough people at work at the exhibit, however, to show the public how rubber shoes are made "in the Banner company way." A comprehensive idea of the material used may also be obtained from this exhibit, by a study of the construction of the booth, which is made up largely of raw material. The general plan is open, of course, which permits the

exhibitors to bring out some unique effects. The rubber covered columns supporting the arches rest at the bottom on a half "biscuit" of the crude article, and at the top they are capped with the other half inverted. Washed and dried Pará rubber covers all the plain parts, and the entire booth has the appearance of being built up from stock from the calender. Designs worked out with heels, soles, etc., are used on the panels for ornamentation.

An unrefutable argument for the toughness of the soles of the "Buckskin" boots is shown by an actual test in one part of the exhibit. A strip two inches wide is cut from the sole of a boot suspended by the heel, which has sustained a weight of 110 pounds. The loosened strip is stretched to more than double its original length, and is held in that position by a fastening to the floor. A strip of the same width cut from another shoe is shown supporting the weight of a ten pound flatiron, and is stretched to a double length.

It is believed that this is the first time that rubber shoe making has ever been shown at any large exposition. Indeed, no large exposition has ever before been held in a city where a rubber shoe factory was located.



## RUBBER INTERESTS IN EUROPE.

THE Compagnie pour le Commerce et l'Industrie du Caoutchouc (Brussels) have successfully placed an issue of 1800 shares, in accordance with a decision at a recent special meeting of the company to create 3000 new shares to pay for the newly acquired factory of the Société Anonyme Centrale Belge, at Alost, and to provide necessary funds for running expenses. Part of the shares created being given in payment for the property acquired, there remained but 1800 to offer to the old stockholders. The profits realized during the half year ending June 30 last will give a profit of 9 francs on each share of capital stock. The anticipated profits of the next half year can be so entirely devoted to the liquidation of debts as to establish still more firmly the financial condition of the enterprise. Since 1898, the year in which it was organized, the company has shown from its successive balance sheets a constantly increasing prosperity, as shown by the table following:

YEAR.	Profits (Francs).		Dividends.	
	Gross.	Net.	Preferred.	Ordinary.
1899.....	155,331	99,460	6.30	1.75
1900.....	207,181	126,609	6.30	1.95
1901.....	208,041	111,503	6.	1.50
1902.....	365,879	244,030	6.50	2.25
1903.....	463,260	345,220	3.	4.50

## RUBBER GOODS EXPORTS FROM GREAT BRITAIN.

OFFICIAL statement of values for the six months ended June 30 of the last three years:

	1902.	1903.	1904.
Boots and shoes .....	£ 69,642	£ 84,826	£ 99,303
Other sorts.....	532,836	585,832	592,835
Total.....	£ 602,478	£ 670,658	£ 692,835

Exports of rubber footwear during the periods above stated were 35,251 dozen pairs in 1902; 74,304 dozen pairs in 1903; and 86,605 dozen pairs in 1904.

The above figures do not include waterproof apparel. The values of exports of apparel "waterproofed by any process" (rubber or other) were: £123,379 for the first six months of 1902; £148,164 for 1903; £137,775 for 1904.

## NOTES.

THE director of the Continental Caoutchouc-und Guttapercha-Co., of Hanover, Germany, Herr Adolf Prinzhorn, who was born in Diepholz, has been made an honorary citizen of that village, by a unanimous vote of the village council, in consideration of the founding there of various institutions by means of which Herr Prinzhorn has shown his interest in the development of his native place.

=The Continental Caoutchouc-und Guttapercha-Co. (Hanover, Germany) have concluded a loan of 2,000,000 marks, at 4 per cent., with the following banking houses: Bernhard Caspar, B. Magnus, Mendel & Rosenthal, and D. Peretz, of Hanover. The loan is to be used for the purpose of erecting new buildings and enlarging the works in general.

=The Mitteldeutsche Gummiwaren-Fabrik Louis Peter (Frankfurt a/M., Germany) is represented at the Louisiana Purchase Exposition at St. Louis, under the name of the Peter Union Pneumatic Tyre Co. Mr. Richard Brockemühl is in charge. The exhibit is devoted chiefly to Peter's Union pneumatic tire and patent double rim.

=The Prager Gummiwaaren-Fabrik Actiengesellschaft (Vysocan, Austria), having been liquidated, its factory will continue to be operated by the Oesterreichisch-Amerikanische Gummi-fabriks Aktiengesellschaft (Vienna). The factory belonged to the latter company prior to 1897, when it passed under the control of an independent company organized for the purpose.

## NEW TRADE PUBLICATIONS.

THE HARTFORD RUBBER WORKS CO. (Hartford, Connecticut) issue a new catalogue of Automobile Tires, devoted to illustrated descriptions of the Dunlop detachable and Hartford clincher styles of tire—both pneumatics—and the Turner solid tire. Incidentally some good rules for the care of tires are given. [7½" × 4¾". 24 pages.]—A handsome folder is entitled The Perfected Dunlop Detachable Automobile Tire. [6" × 7¼". 6 pages.]

THE DIAMOND RUBBER CO. (Akron, Ohio), send us a handsomely got up and very complete illustrated and priced catalogue of their line of Hose. It embraces much information of a practical character regarding rubber hose in general, while calling attention to the distinctive features of the products of this company. [5" × 7". 56 pages.] Another catalogue from the same house, prepared on similar lines, is devoted to Molded Goods, of which a great variety are mentioned. [5" × 7". 20 pages.]

G & J TIRE CO. (Indianapolis, Indiana) issue a handsome brochure entitled "Home of the G & J Tire," illustrating, by means of excellent half tone cuts, the various processes of making tires in the company's factory. We have seen no better illustrations relating to this particular industry. The text begins with a description of the rubber in its crude state, and explains how it is brought, finally, into shape as a pneumatic tire, for bicycle or automobile. [6¾" × 8¾". 16 pages.]

C. J. BAILEY & CO. (No. 22 Boylston street, Boston) have brought out a new catalogue of "Everything in Rubber Goods," which they carry in wholesale and retail. It includes Bailey's rubber brushes and other toilet articles, massage rollers, footholds, ribbed back rubbers, and "Won't Slip" tires, and all the other Bailey patented specialties, together with a general line of druggists' sundries and articles in rubber for household use, ending with mackintoshes and other waterproof clothing. [3½" × 7¼". 100 pages.]—Bailey "Won't Slip" Clincher and Single Tube Motor Carriage Tires. [3" × 6". 4 pages.]

THE OHIO RUBBER CO. (Cleveland and Cincinnati) issue a new edition of their illustrated catalogue of Storm Proof Clothing, which, as usual is made attractive by illustrations of tasteful new styles. The catalogue embraces Stoughton mackintoshes, Priestley Cravenette raincoats, rubber surface clothing, and such specialties as horse covers, dash aprons, camp blankets, and the like. [4" × 9". 16 pages.]—An 8 page price list accompanies the catalogue.

THE HOGGSON & PETTIS MANUFACTURING CO. (New Haven, Connecticut), who advertise in this journal rubber manufacturers' supplies, number among their specialties the Sweetland Chuck, suited for a wide range of machine shop work, and to which is devoted the principal portion of the company's Catalogue No. 7, dated July, 1904. [4¼" × 7". 54 pages.]

## ALSO RECEIVED.

KNICKERBOCKER Manufacturing Co., Chicago.=Bath Luxury. [Referring to Knickerbocker rubber fountain brushes.] 16 pages.

Webster Manufacturing Co., Chicago and New York.=Belt Conveying appliances. Catalog No. 21. 76 pages.

Tredair Rubber Co., Boston.=Tred-Air Rubber Heel. 4 pages.

Tred-Air Heel Cushions. 4 pages.

De Vilbiss Manufacturing Co., Toledo, Ohio.=Atomizers, Nebulizers, Dental Syringes. 13 pages.

Vapor Shower Bath Co. Rochester, New York.=A Story of the Improved "Perfection" Bath. 20 pages.

## OUTING OF THE NEW ENGLAND RUBBER CLUB.

THE Midsummer Outing of the New England Rubber Club occurred on Tuesday, July 26, when the association became for the third time the guests of the Country Club, at Brookline, Massachusetts. The day was perfect, although the morning hours were showery, and at one time there was a prospect of rain. The members and their guests assembled early in the day at the Hotel Touraine, Boston, where 17 automobiles were in waiting to convey a party of about 100 to the beautiful Clyde Park, where the Country Club is located. The automobile run through the Fenway gave the out of town members a splendid opportunity to view the park system of Massachusetts. The rubber men had already learned to appreciate fully what the magnificently equipped Country Club offers in the way of beautiful surroundings, opportunities for athletic sports of all kinds, and the great hospitable mansion provided with all creature comforts.

On arriving at their destination, therefore, the members and their guests immediately made themselves at home, and prepared for the enjoyment of the program for the afternoon and evening, which had been provided by the various committees of the Rubber Club. In all 125 persons participated in the day's enjoyment, of whom 107 made the automobile run through Brookline. It appears that more than half the members of the Club attended, although this is the period in the year when many are away at their summer cottages, or otherwise availing themselves of a summer respite from business. Of the total list, the secretary reports that less than a dozen failed to respond to the notice of the outing, indicating the lively interest of the members in the affairs of the Club.

The sports committee had prepared an excellent program and a majority of the members took advantage of it. There was golf and baseball and bowling on the green in the way of outdoor sports, while indoors provision was made for ping pong, billiards, pool, etc.

The golfers got off early in the day and had finished the eighteen holes by 4 o'clock, the scores, which appear further on, telling the whole story.

The principal feature of the day was the baseball game, between nines representing the manufacturers and selling agents, on one side, and the rubber importers and brokers on the other. The nines were made up as follows:

MANUFACTURERS.	IMPORTERS.
E. B. Pearson, 2b.	A. W. Stedman, s.s.
N. L. Greene, 1b.	E. E. Wadbrook, 1b.
W. E. Barker, p.	E. G. Chadwick, c.f.
F. D. Balderston, 3b.	W. J. Kelley, c.
O. A. Barnard, s.s.	J. Kiley, p.
W. H. Palmer, 1 f.	J. F. Dunbar, 2b.
W. F. Stevens, c.f.	W. C. Coleman, r.f.
G. H. Mayo, r.f.	R. E. Paine, 3b.
H. P. Allen, c.	G. E. Habick, 1 f.

The Importers faced Barker with Stedman the first man up. He retired on strikes, after which followed a miscellaneous program in which two runs were scored. In their turn at the bat, the Manufacturers scored four runs, and from that time on they had an easy time of it and won by 14 to 5. Stedman appeared on the field with his little boy's baseball outfit, sewed upon a business suit which, while adding to his picturesque-ness, somewhat handicapped him in making fast plays. President Apsley, with a red, white, and blue sunshade, kept tabs on the strikes and balls behind the pitchers. His decisions were never for a moment questioned, except once when Kelley,

burlesquing the tough professional, delighted the onlookers by vigorously condemning a close ruling.

## THE SCORE.

Manufacturers.....	4	0	0	2	4	4	0	—14.
Importers.....	2	1	0	0	1	1	0	—5.

Batteries—Manufacturers: Barker and Allen; Importers, Kiley and Kelley.

The bowling was on the greens directly in front of the clubhouse, enabling those who did not wish to play to watch the ancient game from the piazza. Fully 30 were on the greens at one time, either watching or indulging in the sport. No scores were kept; at least the winners requested that none be published, out of deference to the feelings of those who lost.

Following the field games, the banquet took place at 7 o'clock two rooms being utilized and an additional table spread on the broad piazza. All the guests were comfortably seated and the dinner set before them was one of the best in the history of the Club. The orchestra of the Lynn Cadet Band, under the direction of S. S. Lurvey, rendered a choice program during the hour and a half devoted to the dinner, interspersed with the singing of popular selections by members of the Club.

Dinner finished, President L. D. Apsley called upon Mr. W. E. Barker, chairman of the committee on sports, who in a jovial speech named the winners of the day's games and presented the prizes. Each of the fortunate ones stepped to the head table and received the trophy to which he was entitled, amid a salvo of cheers. The prize winners were Messrs. F. D. Balderston, W. E. Barker, F. H. Jones, E. H. Clapp, W. J. Kelley, and S. L. Gillette.

The golf scores follow:

CLASS A.	Gross.	Handicap.	Net.	CLASS B.	Gross.	Handicap.	Net.
F. D. Balderston	95	15	80	E. H. Clapp....	97	18	75
W. E. Barker...	98	16	82	W. J. Kelley....	107	18	89
F. H. Jones....	91	8	83	S. L. Gillette....	102	10	92
J. F. Dunbar....	104	18	86	O. A. Barnard...	96	2	94
H. E. Mason....	95	8	87	N. L. Green....	110	10	100
E. E. Wadbrook.	104	16	88	G. E. Habick....	134	18	116

No cards—J. E. Page, W. H. Gleason.

GUESTS.	Gross.	Handicap.	Net.
L. T. Sawyer....	94	18	72
Andy Highlands.	79	6	73
George C. Dutton	81	6	75
A. G. Wood....	103	28	75
E. Kempshall....	91	16	75
A. L. Johnson...	88	8	80
N. H. Seeley...	98	14	84
John Abbott....	102	14	88
A. L. Aldrich....	118	28	90
J. H. Oyle....	101	10	91

No cards—G. W. R. Hill, M. C. Bourne and W. E. Page.

A vote of thanks was tendered to the Country Club, and after singing "America" the members dispersed, enthusiastic over the success of their outing.

In the next issue of THE INDIA RUBBER WORLD will appear a fine picture of those who were present, grouped on the steps of the Country Club.

In addition to the 17 automobiles furnished by a Boston company for the use of the Club, the following members put their private cars in commission: Arthur W. Stedman, two; William H. Mayo, two; Harry U. True, Eugene H. Clapp, Dr. J. C. Stedman, George R. Alley. By special request of the board of governors of the Country Club, there were no daily newspaper reports of the outing, but this request did not apply to trade papers.

## RUSSIAN TAX ON RUBBER SCRAP.

It appears that the decree of the Russian government, imposing an export duty on rubber scrap, to which THE INDIA RUBBER WORLD has referred more than once, has gone into effect. It forms a part of the new Russian customs tariff confirmed by the Emperor on January 13, 1903, with a view to its going into effect when the occasion might arise. THE INDIA RUBBER WORLD is in receipt of the *Odessa District Gazette*, an official publication for the political district of which Odessa (Russia) is the capital, of the date of June 15, 1904 (corresponding to June 27, Western time), stating that on April 12 the Emperor ordered that the new tariff be put in force. While the new bill thus became a law on April 12, it could not be enforced in any district until officially published therein, and the publication above alluded to renders the law valid as regards Odessa, the port whence very large exports of rubber scrap are made. It may be added that early in July importers in New York became aware that an export duty was being levied on rubber scrap at Riga, a port on the Baltic sea. For several months certain importers at New York had included in their contracts for delivery of Russian scrap rubber a stipulation that the same should be cancelled by the taking effect of the Russian export duty.

The rate of the duty is 1 ruble 50 copecks per Russian pood [=36 pounds], being equivalent to about \$21 46 cents per 1000 pounds, or a little over 2½ cents per pound.

The opinion prevails at New York that the effect of the duty will be not only to render prices for Russian scrap firmer, but to advance prices so soon as a revival of demand, after the summer months, leads to a resumption of imports on an active scale. It is not felt that the total amount of the duty will be added to the import prices of Russian scrap, but certainly a portion of it, and probably half. It is considered that foreign scrap is a necessity, and, therefore, that enough must be paid for it to render its collection profitable. Doubts are expressed whether the collection of much of the scrap now exported from Russia would afford any profit if the tax of 2½ cents a pound were paid by the exporter.

The following table indicates the total imports of rubber scrap into the United States for fiscal years ending June 30, and also the amounts direct from Russia. The table also specifies the imports from Germany, a large portion of which are known to originate in Russia, the figures denoting pounds:

	1899-1900.	1900-01.	1901-02.	1902-03.
Total Imports.....	19,093,547	15,235,235	22,991,900	24,659,394
From Russia.....	5,047,516	6,212,765	8,536,237	10,454,897
From Germany.....	9,810,311	5,797,120	8,716,907	7,290,920

From the above figures it will appear that Russia is in a position to derive a handsome income from her exports of rubber scrap, considering that the rate equals \$21.458.30 per million pounds. It is possible that, in view of the new conditions, there may be larger direct shipments to the United States in future, instead of via German ports.

## AKRON AS A RUBBER CENTER.

AN unnamed writer in the New York *Herald* of July 17, in a lengthy article on the rubber industry, devotes considerable space to the city of Akron, Ohio, as one of the largest rubber centers in the world. The B. F. Goodrich Co.'s factory is mentioned as the pioneer rubber works west of the Alleghany mountains, and its growth is recounted from the time when it found sufficient room "in a little one story building which could be completely hidden in the firm's present large factory."

"As the business of this pioneer company increased," the writer continues, "other wide awake men became interested in the manufacture of rubber goods, and as the demand grew more and more capital was invested, until at present there are twenty-three rubber factories there, and Akron is known far and wide as the 'Rubber City.'"

"Many people wonder what natural advantages Akron offers as a home for rubber factories, and there can be but one answer—there are none. It is an inland city, and every pound of rubber used must be shipped there from the importers in seaport cities. Labor there is no cheaper than in other places. The fact of the matter is that rubber manufacturers realize the importance of locating in a city where they may get skilled labor without having to import it.

"A large majority of the workmen in rubber factories are adepts at the business, and when rubber factories get a rush order there is an instant demand for men of this class. It will be readily seen that it is a physical impossibility to secure skilled workmen from other cities for a job of perhaps a month's duration, so the manufacturers, as a rule, locate their plants in a city where they are assured of skilled workers the year round.

"When one factory is without orders it lays off its men, and other factories pick them up. Thus a skilled rubber worker is always assured of a position when he lives in a city of many rubber factories. An instance of the practical working of this law of supply and demand occurred in the spring of 1903. The plant of the India Rubber Co., of Akron, caught fire one afternoon about 3 o'clock, and was totally destroyed, throwing all of its employes out of work, but even while the firemen were engaged in an effort to save the plant, representatives of the other rubber factories there were buttonholing the employes and engaging their services.

"More than 400 of them were again at work the next morning. Two days later rubber men from the East and West went to Akron to secure workmen from the destroyed plant, only to find that they had been eagerly snapped up by Akron manufacturers and could not be induced to leave the city."

## ARTIFICIAL LIMBS MADE IN JAPAN.

WHATEVER artificial limbs the Japanese may require as a result of the war now in progress with Russia will be bought from their own makers, in the opinion of an American manufacturer interviewed by the New York *Sun*. This manufacturer, apparently A. A. Marks, of New York, stated that his house had ceased to receive any orders from Japan, where the artificial limbs made by him had been imitated in every detail. Even the Marks catalogue, an extensive volume, had been translated into Japanese, and, with the illustrations reproduced, was made to do duty in advertising the Japan-made artificial limbs.

"And now," said the American, "with artificial limbs made in their own country, the Japanese will buy no other. For they are an intensely patriotic people, and however good ours may be, and whether their own may be good or bad, the Japanese requiring an artificial limb will buy one only of Japanese make."

CHICLE AND CHEWING GUM.—The import for consumption in the United States in a single year of more than 3,000,000 pounds of Chicle has led to conjectures as to the number of pieces of chewing gum this weight of material would yield. But it appears that Chicle is far from constituting the chewing gums of commerce. Thus the *Druggists' Circular* gives a formula for chewing gum, using Chicle as a base, in which the latter substance forms but 13½ per cent. of the mass, by weight.



## NEWS OF THE AMERICAN RUBBER TRADE.

## THE VICTOR RUBBER CO. REORGANIZED.

THE rubber factory at Snyderville, established and operated for a number of years by The Victor Rubber Co. (Springfield, Ohio), has been acquired by a new corporation, organized under Ohio laws, with the same name. The new company assumed control on July 12, on which date the first meeting of the corporation was held and the following board elected: Henry H. Durr, Daniel H. Snyder, John W. Pohlman, H. J. Robben, and J. S. Holliday. The following officers were then elected:

*President*—HENRY H. DURR.  
*Vice President*—DANIEL H. SNYDER.  
*Secretary*—JOHN W. POHLMAN.  
*Treasurer*—H. J. ROBBER.

Mr. Durr has been for several years connected with the Consolidated Rubber Tire Co., latterly traveling for them, with headquarters at Akron, Ohio. He is reported to be the largest stockholder in the new company. President Durr informed THE INDIA RUBBER WORLD on July 13: "The company has commenced partial operation and expects to be in complete operation shortly after August 1."

## UNITED STATES RUBBER CO.—DIVIDEND.

THE board of directors, at a meeting on July 7, declared a dividend of  $1\frac{1}{2}$  per cent. on the preferred stock of the company from the net earnings for the fiscal year beginning April 1, to stockholders of record on August 31, payable September 15. This is the second dividend of  $1\frac{1}{2}$  per cent. declared since the suspension of dividends in 1901, the first having been paid on June 15 last. The forthcoming dividend will require \$352,882.50. A statement has emanated from the offices of the company that the net earnings for the first quarter of the current fiscal year exceeded by about \$500,000 the amount needed for the dividend. The various factories have been run at full capacity for most of the time.

## RUBBER PLANT FOR AN ASBESTOS WORKS.

THE Keasbey & Mattison Co. (Ambler, Pennsylvania), extensive manufacturers of a great variety of asbestos products, are about to install a plant for working the rubber utilized in some of their asbestos packings, instead of buying the same from rubber manufacturers. Hitherto there has been no American asbestos goods factory with its rubber department, although in Europe the manufacture of asbestos and rubber products is carried on together in a number of establishments.

## CHEAP SUBSTITUTES FOR RUBBER STAMPS.

THE stamps of printers' roller composition used by the United States postal department are supplied by Benjamin Chambers, of Lodge, Virginia, who has been a successful bidder on such goods for several years. Among the contracts awarded by the department to Mr. Chambers for the fiscal year beginning July 1 was one for 3000 composition stamps at 36 cents per dozen, the charge not including the brass sockets for holding the stamps, and the molds being supplied by the government.

## RUBBER MEN HAVE A HANDSOME DINING HALL.

AN officers' dining hall has been opened in the main office building of the Hartford Rubber Works Co. (Hartford, Connecticut). It is a commodious room on the second floor of the building, and tastefully decorated, and will add greatly to the convenience of those for whom it has been designed, besides facilitating business by providing a daily opportunity for the

department heads to come together. Such an institution is an innovation in Hartford, and it is said to be regarded with much interest by other manufacturers in that city.

## MITZEL RUBBER CO. TO MOVE.

THE Mitzel Rubber Co. (Akron, Ohio), engaged since the beginning of the year in making seamless and dipped rubber goods, in which they have been so successful as to have outgrown already their original premises, have accepted a favorable proposition from the town of Carrollton, Ohio, for the location of the plant there. The company is to be incorporated shortly, with an increase in capital to permit of the production of a full line of rubber goods. The amount of capital is mentioned as \$100,000. The president and treasurer is to be Harvey F. Mitzel, the founder of the business, and who until last autumn was general manager of the Pure Gum Specialty Co. (Barberton, Ohio). The Mitzel company will continue to maintain their office at Akron. They are now receiving estimates on a line of rubber machinery for their new requirements, and have plans made for a two story factory building, 180 × 40 feet, and also for an additional building to be erected a little later.

## RUBBER MACHINERY PRODUCTION AT AKRON.

ALEXANDER ADAMSON (Akron, Ohio) has been busy of late with rubber factory machinery. Recent orders embrace considerable work for the new Alkali Rubber Co., of Akron, a large order for molds from the Diamond Rubber Co., a second 44" × 44" press for the Swinehart Clincher Tire and Rubber Co., a 42" wrapping machine for the Dayton Rubber Co., a 10" × 24" mixer and a tubing machine for the N Tire Co., of Chicago, and an experimental mill and calender for the Akron Dental Rubber Co. The Adamson foundry is new in the mill and calender line, but this work is contemplated from now on, with a gradual increase in the size of machines produced. There has been produced at this plant recently an electric safety clutch, particularly adapted for machinery such as is used in rubber factories, and it is likely to prove of interest to the rubber trade.

## GOOD RECORD OF "WON'T SLIP" TIRES.

C. J. BAILEY & CO. (Boston) have received a strong testimonial in behalf of their "Won't Slip" tire from A. E. Morrison, the winner of several recent contests in mountain climbing in automobiles. At Bretton Woods, New Hampshire, on July 11, he entered a 24 horsepower Peerless touring car in a mountain climb, where the total rise was 6300 feet in eight miles, the grade in some cases being 23 per cent., and won by a margin of 8 minutes. The tires used were 34 × 4 inch Bailey "Won't Slip."

## MANUFACTURE OF RUBBER BALLOONS.

THE demand for toy rubber balloons, rubber balloons for advertising purposes, and such like goods, though it has become considerable in the United States, is still supplied for the most part from Europe. An estimate by one firm in New York is that the imports of rubber "novelties," into the United States reach an annual value in the neighborhood of \$500,000, though of course this figure does not relate to balloons alone. It appears that the manufacture of rubber balloons in this country, though it has been attempted in a number of cases, has been confined thus far to a single establishment, and that not on a

large scale, the total output of which, in this line, is marketed by a New York notion house. The rubber used in these balloons is imported in the form of cut sheet, from Manchester, England.

#### RUBBER COMPANY IN TRENTON SUED.

WILLIAM H. SKIRM, JR., began suit in the United States circuit court at Trenton, New Jersey, on July 20, against the Empire Rubber Manufacturing Co., to recover \$20,000, claimed to be due him and unpaid, for money loaned and for the following items:

Dividend on 311 shares of the company's stock, declared August 4, 1902—10 per cent, for the preceding six months.	\$3,110.00
Salary as secretary and agent of the company, April 1 to May 10, 1903.	444 44
Sixty shares of Campbell Web Co. transferred to Edward F. O'Brien at the instance of the Empire company, August 16, 1902.	5,000.00
Interest on the above items to July 14, 1904.	913 84
<b>Total.</b>	<b>\$9,468.28</b>

#### GOOD RUBBER FOOTWEAR TRADE IN CANADA.

The rubber season thus far has been one of the most satisfactory in the history of the business [says the *Canadian Shoe and Leather Journal*, for July]. The heavy trade done in rubbers last winter and spring cleaned up stocks to an extent never accomplished before, and retailers took heart and have bought liberally. The possibility of a further reduction of the discount had the effect of quickening the demand, and thus early orders have been very large this year. The elimination of jobs and the removal of the possibility of auctions have further cleared the situation, with the result that the rubber business to-day is in a position that could scarcely be conceived four or five years ago. The retail trade are also securing better profits, and whereas the rubber trade was once considered the rag of the shoe business, it is now considered a paying department. This is most satisfactory to all concerned.

#### IMPROVED STITCHED CANVAS BELTING.

A SPECIALTY of the Sawyer Belting Co. (East Cambridge, Massachusetts) is the stitched canvas belting which they have been making with great success for the past ten years. This belting is made from duck woven expressly for the company and constructed so as to give the greatest possible strength and the least possible stretch. The belts are stitched with strong cord in rows  $\frac{1}{4}$  inch apart, each row being perfectly straight the entire length of the belt. This adds greatly to the strength and insures a smooth and even surface and increased traction power. These belts are thoroughly stretched before leaving the factory and run successfully where other belts fail. They are specially adapted for woolen mills, dye works, rolling mills, packing houses, brickyards, saw mills, paper mills, bleacheries, threshers, etc.

#### VERDICT FOR A. W. FABER.

[See THE INDIA RUBBER WORLD, June 1, 1904—page 322.]

IN the United States circuit court for the southern district of New York, on July 19, in the suit of A. W. Faber v. J. Eberhard Faber, heard before Judge Ray, it was ordered that the defendant be perpetually enjoined from making, selling, or advertising any lead pencils, erasable rubber, or rubber bands marked "Faber" or "Faber Rubber Co." or by any other designation employing the word "Faber," without the prefix "Eberhard" or "John E." or "J. Eberhard." Also, that the defendant make an accounting of any goods in his possession marked in such manner as might convey the idea that they were made by the house of A. W. Faber, and that the complainant recover of the defendant all damages which he may have sustained from the use of the name "Faber" complained of.

#### HARTFORD RUBBER WORKS CO.

THE annual conference of the officers, branch managers, and traveling representatives of this company has now become a much appreciated fixture in the policy of the company. It occurred this year on July 18-20, being more largely attended than in any former year. On July 19 the annual meeting of the company took place, resulting in the reflection of the official board named in this paper last month [page 356]. Altogether, the attendance at the conference was as follows:

#### OFFICIAL BOARD.

C. H. Dale, President.  
 William Seward, Jr., Vice President.  
 Justus D. Anderson, Vice President.  
 Charles A. Hunter, Vice President and Director of Manufacturing.  
 James W. Gilson, Secretary and Treasurer.  
 Henry Plow, Assistant Secretary and Treasurer.  
 J. E. Tourtellotte, General Factory Manager.  
 H. W. Bigelow, Superintendent.  
 J. P. Krogh, Chief Accountant and Credits.  
 W. H. Whalen, General Purchasing Agent.  
 C. B. Whittelsey, General Storekeeper.  
 Stephen Roberts, Advertising Agent.

#### BRANCH MANAGERS.

New York—E. S. Benson.  
 New York—uptown—E. S. Roe.  
 Boston—E. R. Benson.  
 Philadelphia—Franklin Kesser.  
 Buffalo—James How.  
 Cleveland—J. B. Kavanaugh.  
 Detroit—E. E. McMaster.  
 Chicago—S. E. Gillard.  
 Minneapolis—W. C. Dawdy.  
 Denver—H. E. Field.  
 San Francisco—M. J. Tansey.  
 Los Angeles—H. O. Harrison.

#### SALESMEN.

E. S. Edwards, special automobile tire representative.  
 R. Clunan—Connecticut, Vermont, Massachusetts.  
 H. Severance—Maine, New Hampshire, Rhode Island, eastern Massachusetts—New York city and vicinity.  
 B. Snowman—New York state.  
 R. H. La Porte—Pennsylvania, Jersey, Maryland, Virginia.  
 A. W. Kirk—South.  
 D. W. Shattuck—Missouri, Kansas, Nebraska, Dakotas, Iowa.  
 A. H. Wikoff—Indiana, Illinois, Kentucky.  
 C. S. Monson—Ohio.  
 C. C. Harbridge—Chicago and Wisconsin.

#### ALSO.

M. C. Stokes and A. O. Holroyd, of the Correspondence Department at Home Office.

Vice President J. D. Anderson has been designated manager of the company's New York branch, to succeed Robert P. Parker, with headquarters for the present at No. 97 Chambers street. The scope of the position has been enlarged, Mr. Anderson having charge of the company's sales in New York, Pennsylvania, Delaware, Maryland, Virginia, and West Virginia.

#### NEW YORK STOCK EXCHANGE TRANSACTIONS.

##### UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 25	50	16 $\frac{1}{2}$	16 $\frac{1}{2}$	300	66 $\frac{1}{2}$	66
Week ending July 1	810	16 $\frac{1}{2}$	16	1,225	66 $\frac{1}{2}$	65 $\frac{1}{2}$
Week ending July 9	2,060	17 $\frac{1}{4}$	16	4,400	68 $\frac{1}{4}$	65 $\frac{3}{4}$
Week ending July 16	1,895	17 $\frac{3}{4}$	16 $\frac{1}{4}$	4,337	72 $\frac{3}{4}$	68
Week ending July 23	10,195	19 $\frac{3}{4}$	18	3,277	76 $\frac{1}{2}$	73 $\frac{1}{4}$

##### RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 25	200	15 $\frac{1}{2}$	15 $\frac{1}{8}$	200	77 $\frac{1}{2}$	77 $\frac{1}{2}$
Week ending July 1	200	16 $\frac{1}{4}$	16	120	78	78
Week ending July 9	300	17 $\frac{1}{4}$	16	180	77 $\frac{1}{2}$	77 $\frac{1}{2}$
Week ending July 16	1,860	18	16	200	78	77 $\frac{1}{4}$
Week ending July 23	3,800	19 $\frac{3}{4}$	17 $\frac{3}{4}$	875	79 $\frac{1}{2}$	78 $\frac{1}{2}$

## NEW INCORPORATIONS.

THE Victor Rubber Co. (Springfield, Ohio), July 2, 1904, under Ohio laws, to manufacture rubber goods; capital, \$100,000. Incorporators: Joseph A. Niehaus, Joseph Rielog, John W. Pohlman, E. P. Lamping, R. C. Cronin.

=United Rubber Sole Shoe Co., June 30, 1904, under Massachusetts laws; capital authorized, \$600,000, represented as paid in by application for United States patent for rubber soling boots and shoes. Fayette W. Wheeler, Malden, Mass., president; Reuben T. Robinson, Cambridge, Mass., treasurer. Mr. Wheeler, a lawyer with offices in Boston, advises THE INDIA RUBBER WORLD that the company are not yet prepared to make their plans public.

=The Alfred H. Smith Co., July 6, 1904, under New York laws; capital, \$125,000. To continue the business of the late Alfred H. Smith, dealer in toilet articles, No. 84 Chambers street, New York, including importation of rubber sponges. Incorporators: S. D. Smith, R. H. Smith, N. M. Smyth.

## TRADE NEWS NOTES.

At a meeting of the board of directors of L. Candee & Co. (New Haven, Connecticut), on July 7, the following officers were reelected: Henry L. Hotchkiss, president; H. Stuart Hotchkiss, vice president and secretary; George E. Bailey, treasurer.

=At the annual meeting of the Easthampton Rubber Thread Co. (Easthampton, Massachusetts), on June 21, L. S. Stowe was reelected president, Frederick T. Ryder treasurer, and F. W. Pitcher general manager.

=The Goodyear Rubber Co. have introduced on the market a line of fruit jar rings, labeled "Gold Seal," put up 1 dozen in a carton and packed 2 gross in a box.

=The factory of the Joseph Banigan Rubber Co., at Olneyville, Rhode Island, which has been closed since early in the month, is expected to resume operation on August 15.

=Mr. J. E. Spencer, until recently purchasing agent for the National Cash Register Co. (Dayton, Ohio), has been appointed manager of sales for the Mechanical Rubber Co., Chicago.

=The factory of the La Crosse Rubber Mills Co. (La Crosse, Wisconsin) resumed work on July 11 with a full force, after having been closed for two weeks to give the employees a vacation.

=The creditors of The Combination Rubber and Belting Co., bankrupt (Bloomfield, New Jersey), early in the month received notice from the referee in bankruptcy that a first dividend, of not less than 20 per cent. on their claims, would be declared on July 19.

=The Duckwall-Harman Rubber and Supply Co. (Indianapolis, Indiana), have increased their capital stock from \$15,000 to \$25,000. The business of the company dates from April, 1899, and was incorporated in 1900 with \$8500 capital, which sum has been increased successively to the amount named above. The company are selling agents in their territory for the rubber products of the Whitman & Barnes Manufacturing Co. (Akron, Ohio).

=There is a newspaper report to the effect that Frank A. Magowan, sometime of the Trenton rubber industry, was at Milltown, New Jersey, about the middle of July, holding "conferences" with citizens of that place relative to reorganizing the late Milltown India Rubber Co.

=There is no rubber in the "Vulcanite Rubber Roofing" offered by the Farley & Loetscher Manufacturing Co. (Dubuque, Iowa). It is made of wool felt, densely compressed, and saturated and coated with a special compound, to render it fireproof against all ordinary roof exposures.

=The Mason Regulator Co. (Boston) have issued a new price list of parts for all sizes of Mason Reducing Valves, a copy of which they will be pleased to mail on application.

=Work was resumed on July 18, at the factory of the Lambertville Rubber Co. (Lambertville, New Jersey), after a brief shutdown for stocktaking and repairs. The mill is reported to be well supplied with orders.

=The directors of the India Rubber and Gutta Percha Insulating Co. (Yonkers, New York) on July 1, declared a dividend of 2½ per cent., payable July 11.

=The Sweet Tire and Rubber Co. (Batavia, New York) have added to their output pump valves and rubber tired truck wheels. W. F. Stearns has been made superintendent of their factory.

=The Union Rubber Co. (Akron, Ohio), jobbers of rubber goods and engineers' supplies, have filed with the secretary of state of Ohio a certificate of reduction of their capital stock from \$50,000 to \$10,000.

=F. R. Müller & Co., long established as India-rubber and Gutta-percha merchants, at Glasgow, London, and Liverpool, have opened a branch house in New York, at No. 108 Water street, which will be in charge of Mr. Wallace L. Gough.

=Boston Rubber Garment Workers' Union No. 174 on July 3 ordered a strike of the members of the union employed by the Coöperative Rubber Co., No. 175 Hanover street, and at a later meeting assessed members who are at work elsewhere 5 per cent. of their wages for the benefit of the strikers. Union No. 174 on July 20 elected Jacob Glazer president, Samuel Starr vice president, Gabriel Jacobson recording secretary, Edward Rosen financial secretary, George Garner treasurer, and Samuel Schneider sergeant at arms.

=In an interview printed in the Hartford Post, with E. D. Robbins, mentioned as counsel for Lewis D. Parker, until lately president of the Hartford Rubber Works Co., it was intimated that legal proceedings would be brought in behalf of his client to recover damages for his deposition from office. A later issue of the Post (July 13) reports the matter "in abeyance for the present and probably for some time in the future."

=W. C. Coleman Co., dealers in scrap rubber and second hand rubber machinery, have removed to Setauket, Long Island, New York, where they have largely more space than was available at their New York city location. They were recently the purchasers of the crude rubber and rubber scrap included in the effects of the North American Rubber Co., in liquidation. Another recent purchase of scrap by them amounted to 400,000 pounds, which is a large transaction in scrap when not including old shoes.

=The Manhattan Web Co., makers of elastic webbing, at Newport, Rhode Island, have won a suit against the Aquidneck National Bank, of that city, under unusual circumstances. Having been a New York corporation, the company was reorganized in 1899 under a New Jersey charter, continuing as before to do their banking business with the Aquidneck institution. On February 30, 1900, the bank held notes against the Manhattan Web Co. of New York, and against E. Read Goodridge, its treasurer, aggregating \$7750, which were paid on that date with a check on the same bank signed by Goodridge as treasurer of the reorganized concern. Shortly afterward a new treasurer was elected and the company's account with the bank was closed. About a year ago the Manhattan Web Co. of New Jersey brought suit against the bank on the ground that their treasurer in 1900 (Goodridge) had no authority to draw on their account to pay his own debts or those of the old corporation, and on June 14 last a jury rendered a verdict in favor of the company for the amount claimed and interest—\$9758.50.



## WHAT "SERNAMBY" MEANS.

IN writing of the preparation of Pará rubber, the United States consul at Pará, Colonel Louis H. Aymé, says:

"The sernamby is the self coagulated rubber which remains in the cups into which the *latex* exudes. When the milk is collected the tapper pours out the liquid contents into a large receptacle that he carries for that purpose. Then he sweeps out the interior of the cup with his forefinger to get what, though liquid, remains in the cup. There is still a film of partly coagulated milk in the cup. This is allowed to remain for several days. There result a number of curious little cakes of self coagulated *latex* that often resemble mussels and hence the name 'sernamby,' which in an Indian tongue means 'mussel.' These little cakes are pressed together and adhere to each other. Sometimes a ball is formed; more often it is pressed in a box. To the cakes are added strips and films from the trees. Careful collectors do not, however, strip the film from the incision made into the bark and which always extends to the wood—usually indeed into the wood—as this film protects the tree from a borer that would otherwise lay its eggs in the cuts."

## RUBBER DAM FOR REDUCING FLESH.

THERE is a new method of flesh reducing which is intended only for people addicted to athletics. One of its features is the fact that one may follow it without attracting attention from one's friends.

The graceful women one sees at Newport riding along Ocean avenue, playing tennis at the Casino, or on the links at the golf club may all the time be taking this method of getting thin, although there is no trace of it in their appearance. Men who ride cross-country or play polo may be simultaneously following this method of flesh reduction, although nobody would suspect it.

It is a fact that some of the women of New York smart society who are noted for their good looks and athletic figures, are most devoted to this method of keeping their weight down. Among men its advocates are those conspicuous for their athletic figures and their strength.

This new method of melting away the too solid pounds is described as the "rubber dam" system. A rubber dam is the bit of rubber fitted by dentists about a tooth on which they are working, to keep away saliva and other moisture. The rubber from which such dams are made comes in bolts about two-thirds of a yard wide. It is a hard rubber cloth and is sold by the yard in one or two drug stores.

Persons who want to take off flesh buy four or five yards of this material, wrap it tightly about the body, and to keep it in place put on a tight fitting suit of silk or woolen underwear, preferably of the kind called the combination. This is only the first stage of the rubber dam reduction cure. The hardest part is still to come. Once the rubber is in place there must come many swift sets of tennis, hard horseback riding, tether ball playing, or some equally exacting sport. The use of the rubber wrappings assists the action of the skin, makes the perspiration much freer, and has been known to take off as much as five or six pounds in one day.

Women usually wrap the rubber about the body from the chest down to the knees. Many women are most interested in getting rid of their hips, as they are likely to show stoutness first there, and the big hipped woman is not at all in the style nowadays. Such women wrap the rubber dam several times around the hips and waist to devote their energies to that particular part of the body.

In the same way, men who think they are getting too heavy over the hips or maybe over the abdomen wrap the rubber only about those parts that they are anxious to attack.

The treatment requires nothing in the way of diet, although it will of course be very much more effective if fattening foods and liquids are avoided. But the rubber dam devotees do not, as a rule, follow any other course in attempting to get thin.

The treatment is not expensive. The original cost of the rubber will not exceed \$4 in any case, and it can be used time and time again.

There used to be complaints that patients under the treatment might take cold, but that happens rarely if after the exercise they go home immediately and take a bath. For persons who ride or play tennis the new treatment is splendidly effective, but it is of no value to those not addicted to athletics.—*New York Sun*.

## MORE COLORADO RUBBER NEWS.

PARA, as a rubber center, is threatened with a rival in the city of Buena Vista, Routt county, Colorado—in the mountains, near the northwestern corner of that state—the home of the "rabbit brush" made famous as a rubber producer by so many conflicting discoverers. The Pueblo *Chieftain* estimates that "this section of the country alone can supply rubber for the world for the next 25 years," though it fails to say where rubber is to come from afterwards.

The American Crude Rubber Co. promise to erect at Buena Vista a factory for the extraction of rubber from the marvelous shrubs, to be operated by electric power, in connection with which they are to light the city and operate an electric railway, the necessary franchises having been granted by the city.

Buena Vista is headquarters for a new company, the Colorado Rubber and Improvement Co., organized by citizens of Columbia, Indiana, under the laws of Colorado, the incorporation papers having been filed May 23. The company is capitalized at \$50,000, and was expected to begin producing rubber by July 1.

THE press very generally has printed the following despatch, regarding which THE INDIA RUBBER WORLD has received a number of inquiries:

CITY OF MEXICO, June 6.—Fernand Vivier, a Frenchman and an expert in rubber culture, has discovered a plant which yields abundant rubber. Tests of the plant demonstrate that no chemicals are needed, as it vulcanizes easily. There is already a large demand from New York for the product of the new discovery.

This report evidently is based upon an interview with Monsieur Vivier, in the *Mexican Herald* of June 1, written by a reporter not too well informed in regard to rubber. We should judge from the report, however, that the plant referred to is the one already mentioned in these pages by the local name of "guayule."

RUBBER SHOE PRODUCTION.—The annual report of the United States Rubber Co. stated the production of its factories during the last fiscal year at over 48,000,000 pairs. The Boston *News Bureau* had already estimated the capacity of these factories at 58,000,000 pairs, according to which it would appear that 83 per cent. of the capacity was employed. The *News Bureau* also estimated the capacity of the independent rubber shoe factories at 29,000,000 pairs per year, and assuming that 83 per cent. of the capacity was employed, these factories should have made 24,000,000 pairs during the past season, or a total of 72,000,000 pairs for the whole industry. The field is now open for any one else who cares to estimate.

## CRITICISMS OF THE CONLEY REPORT.

IN the July issue of THE INDIA RUBBER WORLD some attention was given to an official report on "Rubber Culture in Mexico," by Mr. Edward M. Conley, of the United States consulate general at Mexico City, which report has received a wide circulation through the newspapers and called forth many comments. Several of the rubber plantation companies organized by American citizens have filed protests with the office at Washington through which the consular reports are published, and it may interest some of our readers to present here some specimen letters. The first is from Mr. Louis Kunz, general manager of the Mexican Tropical Planters' Co., and who has been interested in rubber in Mexico for some ten years:

WILLIAMSPORT, PA., July 23, 1904.

To the Honorable,  
The Secretary of the Department of Commerce and Labor,  
Washington, D. C.

DEAR SIR: Under date of June 14, 1904, your Department published *Daily Consular Reports* No. 1978, containing an article by Vice and Deputy Consul General Conley on "Rubber Culture in Mexico."

The avowed purpose of the report is to reply to many letters of inquiry addressed to the American consul in the City of Mexico, on the subject of rubber culture in Mexico, and Mr. Conley, in sweeping terms, condemns rubber culture and rubber planting companies without distinction.

The official character of a consular report demands that it be written by some one competent to deal with the subject undertaken, and that the subject be fairly treated; otherwise, such report would miss its object, namely, to disseminate honest and reliable information.

Mr. Conley undertook something which he certainly was not prepared to deal with intelligently.

It is perfectly true, that there are "fake" rubber companies whose methods cannot be condemned too strongly, but this does not justify Mr. Conley in denouncing rubber planters in general as rascals, and if he cared to go to the trouble to make the necessary investigations, he might easily have learned that some very substantial and reliable people, who are perhaps quite as capable as Mr. Conley of judging of the merits of the enterprise, have interested themselves in the planting of rubber.

It is evident from Mr. Conley's report that he depended for his information on a report published by the Department of Agriculture in 1900, of which Mr. O. F. Cook was the author, and random newspaper stories.

Mr. Conley failed to note that the Cook report referred to was published in 1900, and dealt primarily with the feasibility of rubber culture in Porto Rico, where neither *Hevea* nor *Castilloa* is indigenous, and therefore the report could have little bearing on rubber culture in Mexico, and he further failed to note that the Department of Agriculture issued a second report in October, 1903, after having sent Mr. Cook personally to make investigations in southern Mexico and Central America, and that in this later report Mr. Cook expresses himself as convinced that, under proper conditions, and with proper management, rubber culture will be a profitable business.

It would not have been difficult for Mr. Conley to ascertain the fact that there are many honest and reliable Americans in tropical Mexico, who began their investigations of the possibilities of rubber culture about twelve years ago, and as a result of their experiments rubber culture has been taken out of its experimental stages, and within the last five years planting on a commercial scale has been going on, and if Mr. Conley had cared to inform himself first handed, I am sure that many of the reliable planters would have been glad to give him or his representative an opportunity to fairly investigate the matter.

Incidentally, I wish to remark that in Ceylon, where the experimenting and planting began at an earlier date than in Mexico, there are already plantations paying larger returns on the investments and are a success in every way, and this was accomplished in a country where rubber is not indigenous, but the seed had to be imported from the western hemisphere.

An intelligent investigation of the subject will convince any one that there is nothing mythical about cultivated rubber trees, under proper conditions, producing rubber in paying quantities, and that these conditions are not difficult to meet where the tree is already indigenous.

The experiments referred to consisted in determining how best the tree might be reproduced, whether from seed or from cutting, whether the seed had best be sprouted in nurseries and the young plants then transplanted, or the seed planted where the tree was permanently to remain; whether the conditions under which the wild tree was found growing could be modified with benefit to the tree; at approximately what age the tree would become productive, and whether the extraction of latex in paying quantities would be injurious to the tree, and the best methods of extracting the latex and coagulating it into commercial rubber.

It is not my intention to assert that there is nothing more to be learned on the subject of rubber culture, but I do contend that there is sufficient evidence to justify the investments which are being honestly and intelligently made in rubber plantations.

It seems to be Mr. Conley's idea that rubber plantations can never compete with the wild trees. As a matter of fact, just the reverse is true, and if there shall ever come a time when plantation grown rubber and that taken from the wild trees come into competition with each other, the plantations will be able to undersell the wild product.

With regard to harvesting rubber from cultivated trees, Mr. Conley makes reference to an interview with Mr. Lionel de Pinto, of London, published in one of the newspapers, in which Mr. De Pinto said that upon the harvesting of the rubber would largely depend the success of rubber cultivation. I do not know whether Mr. De Pinto is correctly quoted, but in no case can he be said to have spoken for the whole rubber interests of Mexico.

The planters of Mexico are familiar with methods that are economical and entirely successful. All these consist simply in modifications of, and improvements on, the methods in use by the natives of Brazil, by which they have gathered thousands upon thousands of pounds annually for many years.

Mr. Conley's ignorance on the subject he attempts to discuss is nowhere more fully exemplified than when he attempts to call into question the means available for successfully coagulating the latex. The experimenting along these lines has simply consisted in improving on the methods employed by the natives, but if there were no other means available, the native methods would answer very well.

In view of the unsatisfactory manner in which Mr. Conley has handled this subject, and the injustice he has done to an enterprise in which many thousands of dollars of American money are invested, it seems to me that it would be only fair to your Department to make a proper investigation and correct the erroneous statements made by Mr. Conley.

As the matter now stands, your Department is in the position of contradicting a report made by the Department of Agriculture, with this difference, however, that the Department of Agriculture's report is made by an expert botanist who made his investigations on the ground, whereas the report emanating from your Department is fathered by a man who knew nothing about his subject.

I beg to apologize to you for this long letter, but having a vital interest in the subject under discussion and being a practical planter of twelve years' experience, I felt myself both justified and competent to take your report to task, and I trust you will give the matter the attention its importance entitles it to. Yours very truly,

LOUIS KUNZ.

\* \* \*

A LETTER bearing upon the same subject, by Mr. Squire Garnsey, secretary of the Tehuantepec Rubber Culture Co., is reproduced herewith, with the omission of some references to recently published details regarding the company's plantation:

NEW YORK, July 7, 1904.

To the Honorable  
The Secretary of Commerce and Labor,  
Washington, D. C.

SIR: We have recently had called to our attention a report on "Rubber Culture in Mexico," by one Edward M. Conley, of the Mexican Consulate General, which appears in No. 1978 of the *Daily Consular*

*Reports.* This we have carefully read, and to us or any one else at all familiar with the rubber industry in Mexico, Mr. Conley's report betrays either dense ignorance of the subject matter of his report, or a wilful and malicious purpose to destroy the confidence of the American people in an industry which has every reason to be encouraged and every prospect of success, and in which large sums of American capital are legitimately invested.

We respectfully submit that if the industry is of sufficient importance to be reported upon at all, it is first entitled to investigation by one who is qualified to express an intelligent opinion. Certainly this Mr. Conley is not so qualified, and for a department of the government to publish and circulate, as an official report, any such aggregation of misstatements, is to utilize its powers to injure instead of promote the interests of American citizens.

We know not how other rubber planting companies feel upon this subject, but, speaking for ourselves, we beg to assure you that we shall welcome to our plantation at any time a competent representative of your honorable department, whose report we are sure will show the incorrectness of Mr. Conley's statements.

We respectfully assure your honorable department that we ask no favors or encouragement from any one, but we do seriously object to the alleged "reports" by such of the consular service as serve only to bring discredit upon their calling. Respectfully,

SQUIRE GARNSEY,  
Secretary.

#### HOSE ON NEW YORK HARBOR BOATS.

THE recent disaster in the East river, New York, where over a thousand passengers on the steamer *Slocum* lost their lives by fire and drowning, was followed by a rigid inspection, by government employes, of the steamboats in New York harbor, from which it appears that conditions generally on the boats are better than on the ill fated *Slocum*. This applies to the fire hose on the boats, as well as to other equipment, though it appears from a report in the *New York Sun* that the cotton hose made a better showing than rubber. The captain of the steamer *Saratoga* is quoted as saying:

"These tests show just what my experience has taught me. Unlined cotton hose is the best for use on boats. It can be stowed away easier, is easier to get into action, and will wear longer. Fold up a coil of rubber lined hose as you have to on boats like this, and the rubber gets bad before you know it."

#### REVIEW OF THE CRUDE RUBBER MARKET.

HIGHER prices are prevailing for rubber at this writing than have ever before been quoted in this Journal—higher, indeed, than have ever been known in the trade, save in a single case, a good many years ago, when extreme figures resulted from a speculative movement which was bound to be short lived. To-day's prices, however, cannot reasonably be expected to decline so suddenly, or to so great an extent; they are the result of conditions of a more permanent and a more legitimate character.

It is hardly worth while to recount here the details of stocks and of consumption which have been indicated constantly in our pages, in view of which present prices are not a cause for surprise. It is true that the course of rubber prices is not always along the lines indicated by what is called the "statistical position" of the raw material, lower prices occurring at times with declining stocks, but this is, we believe, exceptional, if the whole visible supply of the world is considered.

The size of the Amazon river output—Pará rubber and Caucho—for the crop year ending June 30 has already been indicated, showing an unimportant increase over past years. The first month of the new season shows even less encourag-

#### ADDITIONAL TRADE NOTES.

DURING a storm on July 28 one of the buildings of the Vulcanized Rubber Co., at Morrisville, Pennsylvania, was struck by lightning, causing flames which were extinguished by the factory fire brigade, assisted by the town fire department, only after a loss amounting to \$10,000 had been caused. It was an old frame building used for the storage of scrap rubber, and the only one of the company's buildings not insured or provided with automatic sprinklers. Plans had been made already by the company for a new two story brick building for the storage of scrap.

=A good exhibit of Daniel's P. P. P. (packing) was made by the Quaker City Rubber Co., Coronation House, Lloyd's avenue, London, E. C., at the International Colliery Exhibition held in London, from June 25 to July 2.

=The Edward M. Caffall Waterproofing Co., incorporated during July under New York laws, with \$50,000 capital, has no relation to the waterproof clothing industry. The Caffall waterproofing compound has been applied to the Egyptian obelisk in Central Park, New York, as a preservative, and the idea is to apply it to stone work generally, where exposed to the elements.

#### PERSONAL MENTION.

MR. WILLIAM H. ACKEN, president of the New York Rubber Co., sailed on July 13, on the new White Star liner *Baltic*, for a vacation in Europe, to last about two months. He was accompanied by Mr. John P. Ryder, vice president of the company, who may remain in Berlin for a year or more.

=Mr. Hermann Müller, of F. R. Müller & Co., crude rubber merchants, of Glasgow, Scotland, recently paid his first visit to the United States, during which he saw a number of the principal rubber works.

#### SPORTS OF RUBBER MEN.

EMPLOYÉS of the importing house of George Borgfeldt & Co. maintain a baseball team, which would be pleased to arrange games with other teams in the rubber trade. Applications may be made to C. H. Norton, manager, Nos. 48-50 West Fourth street, New York.

ing returns, arrivals at Pará during the first 28 days of July being reported at only 1000 tons, against an average of 1150 tons for the complete month of July for five years past. The future tendency of prices must be determined by the extent of the consuming demand, and there are not apparent any indications that this is to be less in the near future. In the United States it has been usual to expect a decline in general business activity just prior to a national political campaign, but nothing of the kind appears imminent in connection with the presidential contest now opening. Nor is there visible in Europe any evidence of an early decline in industrial activity, and, therefore, in the demand for rubber.

It is true that the figures referred to above relate only to Pará rubbers, and that prices of these sorts have in the past been modified by the output of lower grades. While our Antwerp statistics show some improvement in arrivals at that port during the present year, the figures still are lower than for past years, while we print on another page some predictions entitled to weight that the African output, as a whole, is on a decline.

As for prices realized at Antwerp last month, while the figures indicate a fall, the opinion continues to be expressed in Amer-



ica that, considering the condition of the rubber offered, the results were better than in the case of rubbers of the same intrinsic value at former sales.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on July 30—the current date.

PARÁ.	Aug. 1, '03.	July 1, '04.	July 30.
Islands, fine, new.....	89@90	108@109	114@115
Islands, fine, old.....	93@94	109@110	none here
Upriver, fine, new.....	94@95	112@113	118@119
Upriver, fine, old.....	98@99	113@114	119@120
Islands, coarse, new.....	57@58	63@ 64	64@ 65
Islands, coarse, old.....	@	@	none here
Upriver, coarse, new.....	75@76	87@ 88	91@ 92
Upriver, coarse, old.....	@	88@ 89	none here
Caucho (Peruvian) sheet.....	59@60	66@ 67	68@ 69
Caucho (Peruvian) ball.....	71@72	76@ 77	77@ 78

The market for other sorts in New York, the advances on which have been less marked, is as follows:

AFRICAN.	CENTRALS.
Sierra Leone, 1st quality 94 @95	Esmeralda, sausage...74 @75
Massai, red.....94 @95	Guayaquil, strip.....64 @65
Benguella.....74 @75	Nicaragua, scrap...74 @75
Cameroon ball.....64 @65	Panama, slab.....57 @58
Accra flake.....33 @34	Mexican, scrap.....72 @73
Lopori ball, prime.....93 @94	Mexican, slab.....57 @58
Lopori strip, prime.....89 @90	Mangabeira, sheet.....49 @57
Ikelemba.....94 @95	EAST INDIAN.
Madagascar, pinky.....82 @83	Assam.....86 @87
	Borneo.....@

#### Late Pará cables quote:

Per Kilo.	Per Kilo.
Islands, fine. .... 6\$950	Upriver, fine..... 7\$750
Islands, coarse ..... 3\$550	Upriver, coarse..... 5\$550
Exchange, 12 $\frac{1}{2}$ d.	

#### Last Manáos advices:

Upriver, fine.....7\$800	Upriver, coarse. .... 5\$400
Exchange, 12 $\frac{1}{2}$ d.	

#### NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER).

	1904.	1903.	1902.
Upriver, fine.....	1.11@1.14	89@93	70 @72
Upriver, coarse.....	87@ 90	70@74	55 @56
Islands, fine.....	1.08@1.11	85@89	65 @70
Islands, coarse.....	64@ 68	54@57	45 @46
Cametá, coarse.....	64@ 68	56@60	48 @52

#### Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total	Total	Total
	Fine and Medium.	Coarse.	1904.	1903.	1902.
Stocks, May 31.....tons	275	52 =	327	541	552
Arrivals, June.....	97	155 =	252	652	637
Aggregating.....	372	207 =	579	1103	1189
Deliveries, June.....	260	182 =	442	826	776
Stocks, June 30.....	112	25 =	137	367	413

#### LATE SMALL ADVERTISEMENTS.

**MANAGER OR SUPERINTENDENT.**—Position wanted as Manager or Superintendent by an experienced manufacturer. Familiar with compounding Hard and Soft Rubber; expert chemist; has manufactured all kinds of Mechanical Goods and Tires; competent to operate large plant or selling end; understands modern labor saving office methods and factory cost accounting; employed; highest credentials. Address R. E. A., care of THE INDIA RUBBER WORLD. [581]

**CHEMIST.**—Manufacturing Rubber Chemist who can make excellent Rubber Sponge wants to connect himself with concern where successful service will be appreciated. Address H. O. H., care of THE INDIA RUBBER WORLD. [616]

**FOR SALE.** One 20"x60" three chilled roll Calender, and two 16"x40" chilled roll Grinders, all on one line of shafting in perfect order; also one "Jumbo" chilled roll Mill and Cracker, with their shafting. THOMAS F. STEVENSON, No. 120 Liberty street, New York. [618]

	PARÁ.			ENGLAND.		
	1904.	1903.	1902.	1904.	1903.	1902.
Stocks, May 31.....tons	195	115	80	440	1400	2075
Arrivals, June.....	1035	1770	1240	720	570	886
Aggregating.....	1230	1885	1320	1160	1970	2061
Deliveries, June.....	1055	1770	1255	575	650	818
Stocks, June 30...	175	115	65	585	1320	2143

	1904.	1903.	1902.
World's visible supply, June 30.....tons	1506	2712	3272
Pará receipts, July 1 to June 30.....	25,925	26,546	26,456
Pará receipts of Caucho, same dates.....	4669	3204	3514
Afloat from Pará to United States, June 30..	98	495	284
Afloat from Pará to Europe, June 30.....	511	415	367

#### Ceylon Rubber.

EXPORTS of cultivated rubber, mostly Pará variety, from Ceylon, from January 1 to June 27, 1904:

To Great Britain.....pounds	30,950
" Germany.....	2,227
" Belgium.....	111
" United States.....	63

Total, five months.....	33,351
Total, same months of 1903.....	22,533

The total export of Ceylon rubber for three full years past has been:

	1901.	1902.	1903.
Pounds.....	7,392	21,168	41,684

Should the increase of this year's imports over those of 1903 continue throughout the year at the same rate, the total would amount to 60,000 pounds for 1904.

#### Liverpool.

WILLIAM WRIGHT & Co. report [July 1]:

*Fine Pará.*—The demand has been dull and prices have had a declining tendency, closing 1 $\frac{1}{2}$ d. per pound lower on spot and 2d. per pound forward. The estimates of receipts for June have not been realized, but will be made up during this month, and the prospects of a liberal supply of rubber for next crop are good. The sooner we reach a lower level of values the better for the trade.

#### Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots—in cents per pound—show no change from the last published prices, as follows:

Old Rubber Boots and Shoes—Domestic.....	5 $\frac{1}{2}$ @ 5 $\frac{1}{4}$
Do —Foreign.....	4 $\frac{1}{4}$ @ 4 $\frac{3}{8}$
Pneumatic Bicycle Tires.....	3 $\frac{1}{2}$ @ 4
Solid Rubber Wagon and Carriage Tires.....	6
White Trimmed Rubber.....	8 $\frac{1}{2}$ @ 8 $\frac{3}{4}$
Heavy Black Rubber.....	4
Air Brake Hose.....	2 $\frac{1}{4}$ @ 2 $\frac{3}{8}$
Fire and Large Hose.....	1 $\frac{3}{4}$ @ 1 $\frac{1}{2}$
Garden Hose.....	1 $\frac{3}{8}$ @ 1 $\frac{1}{2}$
Matting.....	2 $\frac{1}{4}$ @ 1

**SALESMAN.**—First class Mechanical Goods Salesman, good habits, excellent references, desires position with factory manufacturing strong and complete line. Commission basis; territory, Chicago and Western states, where I have good trade. Address T. H. F., care of THE INDIA RUBBER WORLD. [582]

**WANTED.**—Foreman (and possibly Assistant) to take charge of Hose Department of large Mechanical Rubber Manufacturing concern. Must be thoroughly conversant with construction and most up-to-date methods of making Air Brake, Steam and Suction Hose, and Rubber Lining Cotton Hose. Address MANUFACTURING, care of THE INDIA RUBBER WORLD. [615]

**FOR SALE.**—One or two processes for producing Rubber Substitute from a new and very cheap material never before used for this purpose. Will vulcanize with less rubber than any other substitute. Or would like capital to manufacture it into Soft or Hard Rubber Goods. Address H. S. T., care of THE INDIA RUBBER WORLD. [617]

## London.

EDWARD TILL &amp; Co. [July 1] report stocks:

	1904.	1903.	1902.
LONDON { Para sorts..... tons —	—	—	—
Borneo.....	29	19	122
Assam and Rangoon.....	9	7	10
Other sorts.....	268	198	428
Total.....	306	224	560
LIVERPOOL { Para.....	587	1328	2051
Caucho.....	318	273	312
Other sorts.....	709	460	672
Total, United Kingdom.....	1920	2285	3595
Total, June 1.....	1667	2248	3687
Total, May 1.....	1644	2539	3788
Total, April 1.....	1367	2525	3326

## PRICES PAID DURING JUNE.

	1904.	1903.	1902.
Para fine, hard... 4/ 8 @ 4/10 3/10 @ 3/11 2/11 1/2 @ 2/11 3/4			
Do soft... 4/ 7 1/2 @ 4/ 9 3/4 3/ 8 1/2 @ 3/10			
Negroheads, scraggy... 3/ 7 1/2 @ 3/ 9 2/11 3/4 @ 3/ 2/ 4 @ 2/ 4 1/2			
Do Cameta... 2/ 8 1/2 @ 2/10 3/4 2/ 5 @ 2/ 7 1/2 2/0 1/4 @ 2/ 0 1/2			
Bolivian... 4/ 8 1/2 @ 4/10 3/4 No sales.			
Caucho ball... 3/ 2 1/2 @ 3/ 4 1/2 2/11 @ 2/11 3/4 3/ @ 3/ 0 1/2			
Do slab... 2/10 @ 2/11 2/ 4			

## British Crude Rubber Statistics.

SIX MONTHS ENDING JUNE 30—OFFICIAL.

	1902.	1903.	1904.
Imports..... pounds	26,287,968	29,328,208	30,909,872
Exports.....	15,150,688	19,415,872	16,877,056
Net Imports.....	11,137,280	9,912,336	14,032,816

## GUTTA-PERCHA.

	1902.	1903.	1904.
Imports..... pounds	5,746,832	2,758,672	1,287,440
Exports.....	697,088	423,248	352,912
Net Imports.....	5,049,744	2,335,324	934,528

## Rubber Receipts at Manaoas.

DURING June and twelve months of the crop season for three years [courtesy of Messrs. Witt &amp; Co.]:

	JUNE.			JUNE-JULY.		
From—	1904.	1903.	1902.	1904.	1903.	1902.
Rio Parús—Acre..... tons	30	26	77	5913	5938	6750
Rio Madeira.....	40	57	88	2681	2306	2844
Rio Jurua.....	34	48	54	3678	3608	3642
Rio Javary—Iquitos.....	54	5	3	2273	1507	1304
Rio Solimões.....	9	8	21	837	1372	1551
Rio Negro.....	17	104	14	485	755	383
Total.....	184	248	257	15,867	15,486	16,474
Caucho.....	257	258	200	4057	3612	3485
Total.....	441	506	457	19,924	19,098	19,959

## MANAOS EXPORTS FIRST HALF 1904 (IN KILOGRAMS).

To—	Fine.	Medium.	Coarse.	Caucho.	Total.
New York..	3,165,325	716,161	827,353	1,030,515	5,748,354
Liverpool..	1,379,895	219,159	428,473	1,460,133	3,487,590
*Continent..	888,187	99,639	171,510	383,337	1,542,673
Total...	5,433,337	1,034,959	1,427,336	2,882,985	10,778,617

[\* Havre, Hamburg, and Antwerp.]

## MANAOS EXPORTS BY FIRMS.

	Kilos.		Kilos.
Dusendschön & Co.....	3,658,912	Marius & Levy.....	115,155
Witt & Co.....	2,860,145	Kahn, Pollack & Co.....	92,719
A. H. Alden.....	1,058,434	Sundry shippers.....	374,793
Reeks & Astlett.....	688,352	Iquitos, transit.....	776,284
Neale & Staats.....	653,331	Total.....	10,778,617
J. H. Andresen, Succ.....	296,210		
Denis Crouan & Co.....	195,282		

## Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In the sale by inscription of July 8, in which 475 tons were offered, 316 tons were sold at somewhat irregular prices. Prime quali-

ties found buyers at full valuation and in some instances a small advance was paid, whereas a large number of parcels, of which the quality was not satisfactory, could only be sold by making concessions on the price. On the whole the decline on valuations, which in several cases is about 5 per cent., averages at 2 per cent.

The next large sale by inscription, in which 460 tons will be offered, takes place on August 12. Since the inscription of the 8th instant, 91 tons have been sold, among which about 50 tons Haut Congo Lopori, which had been withdrawn at the sale of the 8th. The stock comprises now about 530 tons, including 300 tons arrived per steamer *Philippeville* on July 5.

Yours truly, C. SCHMID &amp; CO., SUCCESSEURS.

Antwerp, Belgium, July 18, 1904.

## ANTWERP RUBBER STATISTICS FOR JUNE.

DETAILS.	1904.	1903.	1902.	1901.	1900.
Stocks, May 31, kilos	742,215	342,592	464,675	825,442	877,626
Arrivals in June.....	271,334	509,222	297,949	537,799	282,176
Congo sorts.....	189,300	436,868	267,926	517,896	243,308
Other sorts.....	82,034	72,354	30,023	19,903	38,868
Aggregating.....	1,013,549	851,814	762,624	1,363,241	1,159,802
Sales in June.....	324,034	363,815	80,954	408,662	433,426
Stocks, June 30...	689,515	487,999	681,670	954,579	726,376
Arrivals since Jan. 1	1,825,760	2,613,926	2,644,808	3,081,392	3,011,463
Congo sorts.....	2,317,432	2,325,132	2,456,254	2,785,134	2,489,026
Other sorts.....	508,328	288,794	188,554	296,258	522,437
Sales since Jan. 1...	2,747,145	2,784,032	2,377,847	2,740,852	2,577,078

## RUBBER ARRIVALS AT ANTWERP.

JULY 5.—By the *Philippeville*, from the Congo:

Bunge & Co.....(Société Générale Africaine) kilos	165,300
Do.....(Comité Spécial Katanga)	11,800
Do.....(Société Anversoise)	4,400
Société Coloniale Anversoise..(Belge du Haut Congo)	3,200
Do.....(Cie. du Kasai)	81,000
Do.....(Süd Kamerun)	6,600
Charles Dethier... ..(La M'Poko)	11,500
M. S. Cols.....(Société L'Ikelemba)	500
W. Mallinckrodt & Co.....(Alimaitienne)	300
Comptoir des Produits Coloniaux.....	1,000
Société A B I R.....(Société Ibenga)	11,000
Comptoir Commercial Anversois.....	700
G. & C. Kreglinger.....(La Lobay)	7,000
	304,300

## Lisbon Receives More Rubber.

MARTIN WEINSTEIN &amp; CIA. favor us with details of arrivals of rubber, for years ending June 30, as follows, the figures indicating tons:

GRADES.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.
Benguella....	1893	1026	1206	843	1818
Loanda.....	703	733	680	1053	909
Thimbles.....	293	178	108	103	143
Other sorts.....	—	—	98	100	66
Total.....	2889	1937	2092	2099	2936

## IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

	Fine.	Medium.	Coarse.	Caucho.	Total.
July 5.—By the steamer <i>Benedict</i> , from Manaoas and Para:					
IMPORTERS.					
New York Commercial Co.	31,400	10,800	35,100	—	77,300
Poel & Arnold.....	7,000	1,400	57,800	11,000	77,200
United States Rubber Co.	—	—	—	73,900	73,900
A. T. Morse & Co.....	—	—	21,000	63,400	84,400
G. Amsinck & Co. ....	4,100	300	1,200	8,900	14,500
Lionel Hagenaers & Co.	6,300	—	1,600	—	7,900
Lawrence Johnson & Co.	—	—	200	6,000	6,200
Hagemeyer & Brunn....	3,400	1,000	1,000	—	5,400
Total.....	52,200	13,500	117,900	163,200	346,800

July 14.—By the steamer *Cearense*, from Manáos and Pará:

Poel & Arnold	46,300	4,600	91,600	4,800	147,300
A. T. Morse & Co.	20,900	8,500	43,500	2,800	75,700
New York Commercial Co.	12,200	2,900	13,900	600	29,600
Thomsen & Co.	9,800		3,800		13,600
Lionel Hageners & Co.	5,800		1,500		7,300
United States Rubber Co.				8,900	8,900
Edmund Reeks & Co.			3,200		3,200

Total ..... 95,000 16,000 157,500 17,100 = 285,600

July 25.—By the steamer *Fluminense*, from Manáos and Pará:

Poel & Arnold	102,800	13,800	77,900	10,300	204,800
New York Commercial Co.	27,400	9,800	37,900	700	75,800
A. T. Morse & Co.	11,900	2,300	60,100		74,300
Edmund Reeks & Co.				26,100	26,100
G. Amsinck & Co.	7,100	1,800	3,700		12,600
Lionel Hageners & Co.	6,800		2,100		8,900

Total ..... 156,000 27,700 181,700 37,100 = 402,500  
[NOTE.—The steamer *Basil*, from Pará, is due at New York on August 2, with 170 tons Rubber and 15 tons Caucho.]

## PARA RUBBER VIA EUROPE.

JULY 5.—By the *Kroonland*=Antwerp:

New York Commercial Co. (Fine)..... 11,500

JULY 5.—By the *Umbria*=Liverpool:

Poel & Arnold (Coarse)..... 37,000

JULY 9.—By the *Campania*=Liverpool:

New York Commercial Co. (Fine)..... 18,000

New York Commercial Co. (Coarse)..... 4,500

Poel & Arnold (Coarse)..... 19,000 41,500

JULY 11.—By the *Philadelphia*=London:

Poel & Arnold (Coarse)..... 11,600

JULY 11.—By the *Maracas*=Ciudad Bolívar:

G. Amsinck & Co. (Fine)..... 3,500

G. Amsinck & Co. (Coarse)..... 4,000

Middleton & Co. (Fine)..... 5,000

Middleton & Co. (Coarse)..... 1,800

Thebaud Brothers (Fine)..... 1,500

Thebaud Brothers (Coarse)..... 1,000 16,500

JULY 12.—By the *Zeeland*=Antwerp:

George A. Alden & Co. (Fine)..... 16,500

George A. Alden & Co. (Coarse)..... 6,500 23,000

JULY 18.—By the *Elturia*=Liverpool:

New York Commercial Co. (Fine)..... 22,000

New York Commercial Co. (Coarse)..... 22,500

Poel & Arnold (Medium)..... 17,500 62,000

JULY 19.—By the *Finland*=Antwerp:

New York Commercial Co. (Medium)..... 8,000

Flint & Co. (Caucho)..... 3,500

JULY 21.—By the *Menacares*=Ciudad Bolívar:

Thebaud Brothers (Fine)..... 19,500

Thebaud Brothers (Coarse)..... 14,500

Middleton & Co. (Fine)..... 6,000

Middleton & Co. (Coarse)..... 2,000

G. Amsinck & Co. (Fine and Medium)..... 15,000 57,000

## OTHER ARRIVALS AT NEW YORK

## CENTRALS.

JUNE 24.—By *El Valle*=New Orleans:

A. T. Morse & Co. .... 6,400

Manhattan Rubber Mfg. Co. .... 2,000 8,400

JUNE 24.—By the *Yumuri*=Mexico:

George A. Alden & Co. .... 21,000

American Trading Co. .... 7,000

Harburger & Stack ..... 3,500

E. Steiger & Co. .... 1,000

E. N. Tibbals & Co. .... 1,200

Isaac Kubie & Co. .... 700

Samuels & Cummings ..... 800

For Hamburg ..... 7,000 41,700

JUNE 27.—By the *Comus*=New Orleans:

G. Amsinck & Co. .... 4,500

Eggers & Heinlein ..... 1,500

Barling & DeLeon ..... 300 6,000

JUNE 28.—By the *Sarnia*=Carthage:

American Trading Co. .... 3,000

G. Amsinck & Co. .... 1,000

Isaac Kubie & Co. .... 500

Graham, Hinkley & Co. .... 400

A. D. Straus & Co. .... 400 5,300

JUNE 30.—By the *Advance*=Colon:

Piza, Nephews & Co. .... 3,600

Isaac Brandon & Bros. .... 3,200 6,800

JULY 2.—By the *Vigilancia*=Mexico:

Harburger & Stack ..... 2,600

E. Steiger & Co. .... 200

For Hamburg ..... 800 3,000

JULY 5.—By the *Alleghany*=Greytown, etc.:

K. B. Strout ..... 1,300

G. Amsinck & Co. .... 1,100

Andreas & Co. .... 1,100

Isaac Brandon & Bros. .... 2,200

Isaac Kubie & Co. .... 1,200

Kunhardt & Co. .... 1,000

Graham, Hinkley & Co. .... 700

## CENTRALS—Continued.

ROLDAN & VAN SICKLE ..... 800

Jimenez & Escobar ..... 500 9,900

JULY 5.—By the *Roman Prince*=Bahia:

J. H. Rossbach & Bros ..... 11,500

Hirsch & Kaiser ..... 4,500

Lawrence Johnson & Co. .... 4,500 20,500

JULY 5.—By the *Protea*=New Orleans:

A. T. Morse & Co. .... 3,000

A. N. Rotholz ..... 2,500

Manhattan Rubber Mfg Co. .... 2,000 7,500

JULY 6.—By the *Seguranea*=Colon:

Hirzel, Feltman & Co. .... 25,000

Meyer Hecht ..... 4,300

A. Santos & Co. .... 3,400

Roldan & Van Sickle ..... 3,300

Livingstone & Co. .... 2,800

A. Rosenthal & Sons ..... 2,900

G. Amsinck & Co. .... 2,500

Dumarest Bros. & Co. .... 2,000

Lawrence Johnson & Co. .... 2,100

E. B. Strout ..... 1,300

R. G. Barthold ..... 500

Smithers, Nordenholt & Co. .... 500

W. R. Grace & Co. .... 500

Silva Bussenius & Co. .... 300 52,100

JULY 11.—By the *Thespi*=Bahia:

J. H. Rossbach & Bros ..... 65,000

Hirsch & Kaiser ..... 13,500

G. Amsinck & Co. .... 3,700 82,200

JULY 11.—By the *Havana*=Mexico:

H. Marquardt & Co. .... 1,500

Graham Hinkley & Co. .... 500

L. N. Chemedlin & Co. .... 200 2,200

JULY 12.—By the *Siberia*=Savanilla, etc.:

G. Amsinck & Co. .... 1,500

Graham, Hinkley & Co. .... 1,200

Roldan & Van Sickle ..... 1,000

D. A. De Lima & Co. .... 700

Banco de Exportatos ..... 500

For London ..... 4,000 8,900

JULY 13.—By the *Advance*=Colon:

Isaac Brandon & Bros ..... 3,400

Meyer Hecht ..... 1,300

Livingstone & Co. .... 1,200

G. Amsinck & Co. .... 1,200

E. B. Strout ..... 1,200

American Trading Co. .... 900

W. Loalza & Co. .... 500

H. Marquardt & Co. .... 500 10,600

JULY 16.—By *El Monte*=New Orleans:

A. T. Morse & Co. .... 3,000

Eggers & Heinlein ..... 1,000 4,000

JULY 20.—By the *Yucatan*=Colon:

Hirzel, Feltman & Co. .... 14,000

G. Amsinck & Co. .... 12,300

A. Santos & Co. .... 11,500

Meyer Hecht ..... 2,800

Piza, Nephews & Co. .... 2,400

Lawrence Johnson & Co. .... 1,800

Dumarest & Co. .... 1,300

E. B. Strout ..... 1,100

A. Rosenthal & Sons ..... 1,100

Mecke & Co. .... 1,100

Eggers & Heinlein ..... 1,000

Isaac Brandon & Bros ..... 1,800

George A. Alden & Co. .... 500

American Trading Co. .... 500

Isaac Kubie & Co. .... 400

K. G. Barthold ..... 400

A. D. Straus & Co. .... 1,500

For Brussels ..... 5,400 60,800

JULY 22.—By the *Esperanza*=Mexico:

George A. Alden & Co. .... 9,000

E. Steiger ..... 4,000

H. Marquardt & Co. .... 2,500

Harburger & Stack ..... 1,500

L. N. Chemedlin & Co. .... 1,000

E. N. Tibbals & Co. .... 200

Graham, Hinkley & Co. .... 1,000 19,200

JULY 23.—By the *Tennyson*=Bahia:

J. H. Rossbach & Bros ..... 27,000

Hirsch & Kaiser ..... 16,070

A. D. Hilt & Co. .... 10,000

Lawrence Johnson & Co. .... 6,000 59,000

## AFRICANS.

JUNE 24.—By the *Patricia*=Hamburg:

Poel & Arnold ..... 8,000

JUNE 25.—By the *Lucentia*=Liverpool:

United States Rubber Co. .... 45,000

Poel & Arnold ..... 8,000

Rubber Trading Co. .... 1,000 49,000

JUNE 28.—By the *Vaderland*=Antwerp:

Poel & Arnold ..... 45,000

Winter & Smillie ..... 18,000

A. T. Morse & Co. .... 11,500

Robinson & Tallman ..... 3,500 78,000

JULY 1.—By the *Belgravia*=Hamburg:

Poel & Arnold ..... 3,000

Rubber Trading Co. .... 2,500 5,500

JULY 5.—By the *Kroonland*=Antwerp:

George A. Alden & Co. .... 120,000

JULY 5.—By the *Celtic*=Liverpool:

United States Rubber Co. .... 80,000

JULY 5.—By the *Umbria*=Liverpool:

A. T. Morse & Co. .... 11,500

Poel & Arnold ..... 4,500 16,000

JULY 8.—By the *Baltic*=Liverpool:

Poel & Arnold ..... 18,000

A. T. Morse & Co. .... 5,000 23,000

JULY 11.—By the *Patria*=Lisbon:

United States Rubber Co. .... 102,000

Poel & Arnold ..... 35,000

JULY 14.—By the *Majestic*=Liverpool:

A. T. Morse & Co. .... 16,000

JULY 18.—By the *Georgie*=Liverpool:

United States Rubber Co. .... 44,000

JULY 19.—By the *Finland*=Antwerp:

Poel & Arnold ..... 33,000

JULY 18.—By the *Graf Waldersee*=Hamburg:

Rubber Trading Co. .... 5,000

JULY 21.—By the *Aurania*=Liverpool:

United States Rubber Co. .... 45,000

George A. Alden & Co. .... 11,000

Poel & Arnold ..... 13,000 69,000

JULY 23.—By the *Lucentia*=Liverpool:

George A. Alden & Co. .... 25,000

Poel & Arnold ..... 11,000 36,000

## EAST INDIAN.

JUNE 24.—By the *Indrawadi*=Singapore:

Robert Brans & Co. .... 11,000

Pierre T. Betts ..... 13,500

Winter & Smillie ..... 6,500 31,000

JUNE 27.—By the *Manica*=Calcutta:

J. H. Recknagel & Son ..... 5,500

Poel & Arnold ..... 3,500 9,000

JUNE 29.—By the *Angora*=Calcutta:

Poel & Arnold ..... 18,000

JULY 9.—By the *Campania*=Liverpool:

Poel & Arnold ..... 9,0



JULY 11.—By the <i>Shimosa</i> =Singapore:	
George A. Alden & Co.....	435,000
Winter & Smilie.....	200,000
Peel & Arnold.....	175,000
Robinson & Tallman.....	25,000 863,000

## GUTTA-PERCHA AND BALATA

JUNE 24.—By the <i>Patricia</i> =Hamburg:	
To order.....	7,000
JULY 1.—By the <i>Belgravia</i> =Hamburg:	
To order.....	8,500
JULY 8.—By the <i>Pretoria</i> =Hamburg:	
To order.....	6,500
JULY 11.—By the <i>Shimosa</i> =Singapore:	
George A. Alden & Co.....	3,500
BALATA.	
JUNE 30.—By the <i>Grenada</i> =Trinidad:	
Frame & Co.....	1,600
For Havre.....	2,500 3,500

JULY 21.—By the <i>Menzanara</i> =Orinoco:	
Frame & Co.....	2,500
For London.....	200,800
For Hamburg, etc.....	25,000 227,500

## CUSTOM HOUSE STATISTICS.

## PORT OF NEW YORK—JUNE.

Imports:	POUNDS.	VALUE.
India-rubber.....	2,290,177	\$1,429,064
Gutta-percha.....	31,620	13,968
Gutta-jelutong (Pontianak) ..	1,613,091	46,801
Total.....	3,944,788	\$1,489,833
Exports:		
India-rubber.....	53,552	\$30,760
Reclaimed rubber.....	129,721	16,178
Rubber Scrap Imported.....	2,145,151	\$128,366

## BOSTON ARRIVALS.

	POUNDS.
JUNE 1.—By the <i>Cretie</i> =Liverpool:	
George A. Alden & Co.—Central.....	8,500
George A. Alden & Co.—African.....	24,247 30,747
JUNE 10.—By the <i>Sagamore</i> =Liverpool:	
Peel & Arnold—African.....	11,182
JUNE 11.—By the <i>Bethania</i> =Hamburg:	
George A. Alden & Co.—African.....	77,461
JUNE 15.—By the <i>Canadian</i> =Liverpool:	
George A. Alden & Co.—Central.....	5,098
JUNE 27.—By the <i>Pontas</i> =Hamburg:	
George A. Alden & Co.—African.....	5,660
Total.....	130,148
[Value, \$67,603.]	
GUTTA-PERCHA.	
JUNE 1.—By the <i>Columbian</i> =London:	
Jaeger & Co.....	10,406

## EXPORTS OF INDIA-RUBBER FROM PARA—FIRST HALF OF 1904 (KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Schrader & Co.....	249,301	49,483	454,312	11,767	764,863	596,156	63,851	274,643	362,118	1,296,768	2,061,631
Frank da Costa & Co.....	261,928	40,402	738,371	11,459	1,052,160	307,428	25,786	246,164	3,340	582,718	1,634,878
Adelbert H. Alden.....	315,057	80,349	444,055	5,726	845,787	397,991	61,994	146,238	117,119	723,342	1,569,129
J. Marques & Co.....	40,482	1,231	55,602	—	97,315	106,329	4,548	52,297	7,605	170,779	268,094
R. Suarez & Co.....	32,387	10,621	1,836	—	44,844	112,693	24,507	20,176	6,036	163,412	208,256
Kanthack & Co.....	74,636	20,131	22,773	4,962	122,502	35,202	10,490	36,315	—	82,007	204,509
Neale & Staats.....	—	—	84,372	20,212	104,584	17,976	1,848	6,804	30,112	56,740	161,324
Singlehurst Brocklehurst & Co.	5,294	170	15,526	—	20,990	67,145	15,745	11,141	—	94,031	115,021
Pires, Teixeira & Co.....	53,899	—	31,330	—	85,229	—	—	—	—	—	85,229
Denis Crouau & Co.....	19,193	1,851	28,812	—	49,856	801	176	16,312	—	17,289	67,145
B. A. Antunes Co.....	4,903	1,647	4,322	4,821	15,693	—	—	—	—	—	15,693
Divers exporters.....	—	—	1,094	—	1,094	—	—	—	530	530	1,624
Direct from Iquitos.....	1,062	179	1,050	3,744	6,035	212,411	67,033	126,664	597,550	1,003,658	1,009,693
Direct from Manaos.....	3,136,303	713,859	817,101	1,027,707	5,694,970	2,048,018	231,947	500,352	1,437,199	4,217,516	9,912,486
Total January-June, 1904.	4,195,045	919,923	2,700,556	1,090,398	8,905,922	3,902,150	507,925	1,437,106	2,561,609	8,408,790	17,314,712
Total January-June, 1903.	4,073,517	1,038,149	2,726,135	1,036,078	8,873,879	4,803,518	589,520	1,328,363	2,282,155	9,003,565	17,877,444
Total January-June, 1902.	3,871,260	967,250	2,351,918	994,532	8,184,960	4,511,911	903,549	1,465,646	1,567,998	8,449,104	16,634,064
Total January-June, 1901.	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,916	1,408,662	1,980,886	7,476,380	16,989,448

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1904.....	3,772,026	335,218	3,436,808	May, 1904.....	4,909,632	2,476,656	2,432,976
January-April.....	28,222,397	1,126,691	27,095,706	January-April.....	21,299,264	12,833,414	8,465,850
Five months, 1904.....	31,994,423	1,461,909	30,532,514	Five months, 1904.....	26,208,896	15,310,070	10,898,826
Five months, 1903.....	25,215,766	1,355,007	23,860,759	Five months, 1903.....	24,886,400	17,354,512	7,531,888
Five months, 1902.....	24,295,122	1,573,991	22,721,131	Five months, 1902.....	23,576,224	12,894,806	10,681,328
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1904.....	2,878,480	504,680	2,373,800	May, 1904.....	139,920	23,320	116,600
January-April.....	12,143,780	3,779,600	8,364,180	January-April.....	598,180	25,960	572,220
Five months, 1904.....	15,022,260	4,284,280	10,737,980	Five months, 1904.....	738,100	49,280	688,820
Five months, 1903.....	16,059,120	6,089,820	9,969,300	Five months, 1903.....	812,020	26,400	785,620
Five months, 1902.....	12,987,920	4,702,280	8,285,640	Five months, 1902.....	661,980	93,500	568,480
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1904.....	1,629,100	918,060	711,040	May, 1904.....	207,240	nil.	207,240
January-April.....	7,645,220	5,028,760	2,616,460	January-April.....	1,066,340	10,340	1,056,000
Five months, 1904.....	9,274,320	5,946,820	3,327,500	Five months, 1904.....	1,273,580	10,340	1,263,240
Five months, 1903.....	6,804,160	3,879,480	2,924,680	Five months, 1903.....	1,294,700	12,320	1,282,380
Five months, 1902.....	8,006,900	3,569,720	4,437,180	Five months, 1902.....	1,190,440	6,820	1,192,620

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canada consumption.

\* General Commerce.

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